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ORIGINAL ARTICLES.

ELECTROLYSIS IN GYNECOLOGY; WITH A REPORT OF THREE CASES OF FIBROID TUMOR SUCCESSFULLY TREATED BY THE METHOD (WITH DISCUSSION).[1]

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(*Concluded from page 68.*)

6. *Laceration of the Cervix Uteri.*—This is a condition which of course cannot be repaired by electrolysis. I hope I will not be considered as riding a hobby, however, if I assert that temporary relief can be obtained from the results of laceration of the cervix by the proper use of electrolysis. The painful consequences following this condition of laceration are due in great part to formation of cicatricial tissue in the fissure, to degeneration of the mucous follicles, to obstructed circulation in the neck, and to connective tissue changes, and a congestive hypertrophy.

By experience in just this condition, when the privilege of trachelorrhaphy was withheld, or when for some other good reason I was deterred from operating, I have obtained very gratifying *temporary* results. I emphasize *temporary*, because time enough has not passed since the operation to warrant me in saying permanent. However, because of the nature of the condition I do not expect to get permanent relief in these cases, although in two typical cases I have seen complete relief which has lasted four and six months respectively.

Case 6.—The first of these was that of a primipara who had been confined in the country two years before she consulted me. The laceration was a deep bilateral fissure, with hypertrophied, angry, congested appearing lips, with a large quantity of bloody albuminous discharge hanging from their surfaces. The patient presented all the subjective symptoms usually accompanying such a condition, including general anæmia and nervous irritability, with menorrhagia. The treatment, besides good feeding, was hot water vaginal injections, and a thorough application of galvanism directly to the cervix. The cervical cup was used for the internal electrode, with an occasional application to the canal with the bulb electrodes. The patient improved rapidly from the first. The hypertrophy rapidly subsided, the hypersecretion was checked immediately, and in five weeks the patient was discharged. At this time, as she was in the best possible condition for a trachelorrhaphy, I rather insisted upon the operation, but she preferred to "run her chances," inasmuch as she was, to all personal feelings, well.

Case 7.—The other uncomplicated case is one that came from a prominent specialist, and had been treated in preparation, I judged, for a trachelorrhaphy, although the operation had not been suggested to the patient. She had been under treatment for three months, receiving local applications from two to three times a week. She had improved but little after the first month. The cervix had a deep bilateral laceration, the left extending to the vaginal junction. The cicatricial plug was almost like cartilage, and a general hyperplastic condition of the whole cervix existed. The case was treated exclusively, with the exception of small doses of arsenic, by electrolysis. At the end of two months the cervix was soft and pliable, the two lips easily coming together, much reduced in size, and the congested condition had disappeared. The patient considered herself cured, although I cautioned her that the symptoms might return.

This method of treatment is so prompt in relieving this condition that it is destined to become very popular as a temporary measure, or as a general measure when there are insurmountable barriers to an operation. As a preparatory measure for trachelorrhaphy it surely possesses very superior claims.

8. *Ovarian Cysts.*—I have had no experience with electrolysis in this condition. And with the present successful standing of ovariotomy, I think it will gain very little popularity in that direction. Dr. Paul F. Mundé[2] said recently in writing on the subject: "Many of us may still remember the claims of Dr. Frederick Semeleder, of Mexico, some eight years ago, that ovarian cysts were curable by electrolysis, and may also recall his experiments with the method here, and his disastrous results." Dr. Mundé still further says: "I made it my object at that time to collect all the cases in literature of electrolysis for ovarian tumors, and to compile the cures and failures, and published a full article on the subject in the *Gynecological Transactions* for 1877, vol. ii. I collected fifty-one cases, of which only twenty-eight might credibly be considered cured; nine died, and fourteen were utter failures. The ratio of mortality and failure was 45 per cent., or double the mortality

[1] Read in the Section of Obstetrics and Diseases of Women at the Thirty-Seventh Annual Meeting of the American Medical Association, May 5, 1886.

[2] American Journal of Obstetrics, December, 1885.

from ovariotomy, even in the hands of our less successful operators of to-day." He adds, "That settled the question of electrolysis."

While Dr. Mundé's statistics do not show very well for electrolysis, we must remember before giving it an unqualified condemnation that electrolysis as a surgical procedure in ovarian tumors is in its infancy compared to abdominal section in the same condition; and we must also remember that his statistics exhibited but nine deaths in fifty-one cases, or a mortality of less than 18 per cent. Of course failure to cure the other fourteen by electrolysis did not preclude the last alternative, ovariotomy. I do not believe that the first fifty-one cases of ovariotomy performed exhibited anywhere near as good a record as Dr. Mundé's statistics show for electrolysis. Let us wait, therefore, for further developments before passing too severe judgment.

9. *Peri-Uterine Hæmatocele.*—Dr. Apostoli[46] recently described a method of treating this condtion by means of negative-galvano-puncture as follows:[47] "The chemical caustic action of the continuous current is utilized in making an opening into the tumors. The opening thus made is, in character, a non-retractile fistula, with tendency to remain open, and with adhesions between the pathological cavity and the external mucous membrane. . . . . The advantages of this method are that, on account of the adhesions formed, the danger of opening is lessened, and the cicatrix left by the negative eschar is slight and non-contractile. A further after-effect of this method of utilizing the chemical caustic action of this current is that the nutrition of these pathological cavities is modified, leading to retrograde metamorphosis."

Apostoli has treated one case by this method, and the excellent results obtained lead him to the following general conclusions: "The method is safe, quick in action, and modifies the usual prognosis. The method is, in action, double—it has a surgical effect and a medical effect." He adds: "It is applicable alike to hæmatocele, abscess, fibromata, interstitial myomata and extra-uterine cysts.

10. *Fibroid Tumors of the Uterus.*—Fibroid tumors have been reported cured by a process of electrolysis by a number of operators.[48] The popular method heretofore adopted has been the electro-puncture. This is accomplished by means of needles made of steel, silver or gold, of different lengths according to the requirements of the case to be operated upon (figure 6). These needles are insulated to within a short distance of the point. They are made so that they may be connected with either pole of the battery by means of flexible wires.

Method of electro-puncture: If a subperitoneal fibroid tumor is to be operated upon, a point is found, if possible, where a needle from one or both poles of the battery can be introduced into its substance without wounding the peritoneum. This often can be accomplished by passing the needle through the substance of the uterine walls, and entering the tumor at its attachment to the uterus. Sometimes the needle only from one pole of the battery is used, while the circuit is completed by applying the electrode from the other pole, which should be a very large flat sponge electrode (figure 7), upon the surface of the body in close proximity. If two needles are introduced, one from each pole, they should not come in contact at any point. Sometimes in large abdominal tumors the needles are thrust through the abdominal walls into the substance of the growth. In any of these procedures it is usually necessary to administer an anæsthetic. The strength of the current must depend upon the manner of application, and what is to be accomplished. If both poles are connected with needles, and the needles are buried in large tumors, a greater strength of current can be used than when one electrode is on the skin. The current is usually increased in strength one cell at a time until the negative needle is well loosened by the chemical decomposition of the current. The séance should last from ten to fifteen minutes, and be repeated in ten days if necessary. Three or four applications well carried out are sufficient usually to decidedly reduce large fibroids. The above method is substantially the one adopted by Dr. J. N. Freeman, of Brooklyn, and Dr. Menière, of Paris.

Another method adopted and described by Apostoli, which is only applicable for interstitial and submucous fibroids, is a mixed treatment of the faradic and the galvanic currents. His manner of application of the current is such that the current will pass through the largest part of the tumor. The needles are not used. His idea is to get the effect of the two currents—the chemical effect of the galvanic, and the contractile effect of the faradic.[49]

The treatment which I have adopted is the same as that already described for removal of inflammatory exudates, the reduction of the hyperplastic uterus, the absorption of cicatricial tissue, etc. A current of high tension and small quantity is used. A current of this quality is applied as strong as the patient will bear. The negative electrode is applied in the vagina, the uterus, or the rectum, while the positive pole is applied on the skin in a position that will cause the current to pass through the largest diameter of the growth. The internal electrode is metal, and may or may not be covered with chamois. The séance should last from ten to twenty minutes, according to the susceptibility of the patient and the strength of the current. While this method may not be as applicable for very large tumors as electro-puncture, on small interstitial growths its action is very prompt and satisfactory.

My experience in this treatment is confined to three cases of fibroid tumors. The cases are so typical and the histories so complete, and the effect of treatment so prompt, that I shall look for much good to come from the treatment of fibroids by this method.

Case 8 is that of a young married lady, aged 25,

[46] Quotation from American Journal of Obstetrics, April, 1886.
[47] Association Française pour l'Advancement de Science.
[48] See another portion of this paper for authority.

[49] Dr. Apostoli has of late adopted the strong galvanic current in the treatment of fibroids.

who had been married five years. I was first called to her because of acute neuralgia of the heart. At this time I learned that she had been troubled with excessive menstruation for nearly two years. She afterwards consulted me at my office. She complained of the excessive menstrual drain, excessive backache, pressure on bladder, and hæmorrhoids. She was anæmic and very irritable. Upon examination I found the cervix low in the pelvis, the uterus apparently large, with a patulous canal. Further examination showed what seemed like a large fundus in Douglas's cul-de-sac. By making a combined rectal and abdominal examination I was immediately convinced that I had a large growth in the posterior wall of the uterus to deal with. Upon passing a sound into the uterine canal with a finger in the rectum, I was able to estimate the growth to be about two and a half inches in anterior posterior diameter, and occupying a portion of the enlarged uterine wall about three inches in diameter. It bulged on the peritoneal surface about one and a half inches. It was hard and firm, and on rectal and abdominal examination seemed to be about the size of a man's fist, two-thirds of which was incorporated in the uterine wall, the other third protruding posteriorly.

This woman received galvanism every day that she was not flowing, with few exceptions, for ten weeks. To be more explicit, she received forty-five treatments. The growth rapidly became absorbed. The menstruation at the first period was much improved. At the end of ten weeks the uterus was normal in size, and not a vestige of a thickening in the posterior wall could be discovered. All other symptoms disappeared, including the menorrhagia. It has been four months since treatment was discontinued. I saw the patient a month after she was discharged, and she was well.

The manner of application was as follows: A bulb uterine electrode (figure 5) connected with the negative pole was introduced into the uterine canal. The positive electrode was a large flat sponge electrode (figure 6), which was applied over the sacrum. At a few of the sittings I applied the negative electrode in the rectum opposite the tumor, applying the other on the abdomen. At each séance the current was made as strong as the patient would bear on the external surface. This varied from fourteen to eighteen milliampéres.

Case 9 was also a young married woman, without children, who consulted me for irregular and painful menstruation, painful urination and backache. Age 29; six years married. She was anxious to bear children. This patient was first seen by me at the South Side Dispensary, Chicago. She afterwards consulted me at my office. Patient was well nourished and hearty, and presented no other difficulties than those of the pelvis. Local examination elicited the following condition: The uterus was large and crowded into the hollow of the sacrum. Protruding from the anterior wall and fundus was a large growth of firm, hard consistence, about three inches in diameter and about two and a half inches in thickness measured from the uterine canal. It seemed to be thoroughly incorporated within the uterine walls, forcing the tissues either way, and presenting a convexity both anteriorly and posteriorly. The uterine canal was crowded upon and took a curved course around the tumor. It was with difficulty that the flexible probe could be made to pass it. The tumor protruded above the fundus, or at least lengthened the uterus in that direction.

The treatment in this case was substantially the same as that used in the above case. The bulb electrode was passed into the uterine canal until it pressed firmly upon the protruding tissue, and was held in that position. The external sponge electrode was pressed down firmly over the fundus of the uterus, including the growth in its grasp. The sittings lasted from fifteen to twenty minutes, and were, as a rule, given every day. The tumor reduced rapidly in size, the decrease being very noticeable from week to week. The patient was under treatment eleven weeks, receiving in all fifty-two treatments. The disagreeable symptoms that brought the patient under treatment had disappeared for some time, and it was with difficulty that I could induce her to come to me during the latter part of the time. She left me, at last, before I was quite satisfied with the result, although she was comparatively well.

The uterus was reduced to its natural size, measuring when treatment ceased two and one-half inches, instead of four and a half, as when treatment commenced. While there was a little thickening of the anterior wall noticeable upon careful examination, the tumor proper could practically be said to have disappeared. The menstrual difficulty had ceased. I have not had an opportunity of seeing this patient since last treatment, although she promised to report within a couple of months. As she was so well satisfied with the result of my treatment, I think that she would have reported if there had been any return of symptoms. It has been a little less than four months since treatment was discontinued.

Case 10.—This patient has been under observation for about two years. Electrical treatment was not adopted, however, until about six months ago. The patient is a robust young unmarried lady about 26 years of age. She consulted me because of an abdominal tumor. She had previously consulted a homœopathic physician who had Dr. R. Ludlam, of Chicago, see her. Both of the latter pronounced her incurable. Upon examination I found a large abdominal tumor attached to the whole anterior portion of the uterus, crowding that organ away from the bladder. The tumor pressed uncomfortably upon the latter organ, and filled the space between the uterus and bladder, in which position it could be easily felt through the anterior vaginal wall. The uterus was not enlarged. The tumor was ovoid, smooth, easily movable under the abdominal walls, about nine inches in its long and six in the transverse diameter. It was growing rapidly when she came to me. I advised an operation for removal by abdominal section. This she would not submit to until after other methods were exhausted. I therefore, with the idea of preventing further growth, if possible, by obstructing the circulation, gave her ergotine treatment. In connection with this the iodine

treatment was instituted. By these means I was able to prevent the growth of the tumor.

About six months since, after a lull in the treatment and considerable progress in the growth of the tumor, I commenced at the patient's request the galvanic treatment. The method was similar to that used in the two above cases. A uterine bulb electrode was introduced into the womb, or a vaginal ball electrode (figure 8) was introduced, and pressed firmly against the tumor where it rested against the anterior wall of the vagina, while the large hand electrode was pressed down over the tumor on the abdominal wall. From 10 to 14 milliampéres are borne by the patient at each séance, which lasts from fifteen to twenty minutes. The treatment was repeated every second day for about three months, when the progress in growth was checked not only, but was reduced in size fully one-third. The treatment for unavoidable reasons was dropped for a month, when the tumor made rapid progress again in growth. The galvanism was commenced again and has been continued to the present time, with a still further diminution in the size of the tumor.

This case, I think, would have made much better progress if the treatment had been given every day instead of every second day. In a case in which the tumor is so large, situated as this is, with a texture so firm, I think the galvano-puncture is more suitable, and will give better satisfaction. The patient in this case was very susceptible to the current. She was only able to bear a comparatively weak current on account of a general feeling of depression which it produced. This was not noticed in the other two cases.

Thus, by the foregoing cases can be judged the advisability of using electrolysis in fibroid tumors. The method used in these cases I think originated with myself, though applications of the same principle in other conditions have been used by a number of operators. The method when properly carried out is reliable, prompt, painless, and absolutely free from danger. If for any reason it does not succeed, the failure does not preclude other methods of treatment. I therefore, knowing its results, very enthusiastically recommend it as a procedure well meriting careful consideration.

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DISCUSSION.

DR. ELY VAN DE WARKER, of Syracuse, said:—Acting upon the suggestions of Dr. J. N. Freeman, I have used electrolysis in a case of large, rapidly-growing fibroid of the uterus. The patient, a young married woman, had a tumor extending nearly to the umbilicus. No menstrual difficulty. The patient was anæsthetized for the operation. A needle from each pole of the battery was inserted into the tumor. A current of from fifteen to twenty zinc carbon cells from an ordinary galvanic battery was employed. Notwithstanding the anæsthetic, the patient writhed with pain. Following the operation in about three days a high temperature was observed, which was found to be caused by an abscess forming. This abscess in time evacuated itself.

In three months, at a séance of thirty minutes' duration, a much stronger current was used. A subsequent examination exhibited no improvement in the case. In two other cases similar treatment was employed with like results. The treatment in my hands has proved very painful, and not entirely free from danger.

DR. ROBERT NEWMAN, of New York: Congratulating the author on his excellent paper, I feel my inability to discuss it, as I can only coincide and approve the contents in every particular, finding no point to differ. My object in rising is rather to dissect the discussion, illustrating some points and adding to it some of my own experience.

If the last speaker and others have failed in electrolysis, and particularly in the treatment of fibroids, it is due mostly to using too strong a current. Electrolysis may be applied in different degrees of strength, either to absorb, or destroy, tissues. In most cases we use it for absorption, and in such cases weak currents *must* be used. I have always insisted on such currents, and long intervals between séances, and cannot repeat too often as a guide to success, the advice, "weak currents and long intervals." Some operators report the use of from twenty to even seventy and eighty cells. Such heroic efforts appear almost criminal, and it is a wonder that fatal results have not occurred after such treatment; and still more surprising is it that some report successes. The treatment of tumors, and particularly fibroids, is a wide field for investigation, and I have no doubt will result in favorable reports in the future. At present there is a diversity of opinion in the profession on this point. Failures may occur, for good reasons, as, bad management, bungling in the operation, using defective instruments, wrong diagnosis, too strong a current, operating at a wrong time, or too frequently, or by a wrong method, etc. For instance, I consider it wrong to use needles at both poles inside of a fibroid, and have seen bad results by using one needle, which was insufficiently insulated, in the tumor. In the latter case the current burned along the whole track of the needle, and caused thereby a peritonitis.

If needles are used it is best to introduce the needle as the negative pole into the tumor, so well insulated that only the point acts upon in the tumor, while the peritoneum, and other tissues outside the tumor, are not affected by the electricity. The positive sponge electrode is held near the tumor on the cutaneous surface. There are many other methods used and reported by different authors.

It is admitted that premature and reckless statements, as also failures in such cases, have shaken the belief of many, and created a skepticism in the profession. But that is overbalanced by the accumulation of positive evidence of successful reports and cures by trustworthy men, who can furnish witnesses and produce the patients so cured; for instance, Freeman, Everett, Apostoli, Meniére, and many others. We have also on record brilliant cures of ovarian tumors by Ehrenstein, Clemens, VanDer-

veer, and particularly by Lemeleder, of Mexico. The latter confirms his successes in a letter which I received from him recently, and adds new cases to the list. The indurations left after pelvic cellulitis I have often removed entirely by repeated applications of electrolyses: which would not have yielded to any other treatment. In these cases I also used weak currents repeated once a week.

In carcinoma I have had successes and failures. In such cases I use the electrolysis as a destructor of abnormal tissues, and therefore must apply strong currents. A negative needle is inserted at or near the periphery of the tumor, while a positive sponge electrode is applied opposite on the cutaneous surface. Séances are repeated in short intervals until the tumor is destroyed. The success depends on whether the circle operated on has included the whole region of the carcinoma. If cancer-cells have extended outside of that circle, and are left to proliferate, the case will end fatally.

And now, Mr. President, I add to the list the greatest achievement of electrolysis, the certain saving of every woman afflicted by *extra uterine pregnancy*, while all perished in former times. Successful cases have been reported by A. D. Rockwell, E. G. Landis, Nathan Bozeman, Garrigues, Reeve, Lusk, and others. The *modus operandi* is simple. Repeated applications, one metal pole in vagina or rectum, near and below the tumor, the positive sponge-electrode above the abdomen, will destroy and absorb the fœtus. It is of great importance to the obstetrician, nay, to every practitioner, to know that he has a certain remedy to save life in this troublesome anomaly of nature.

I have also used electrolysis successfully in vaginismus, strictures of the rectum and urethra. The latter diseases are rare in females, but they occur.

In conclusion, I wish to say that it is desirable to express the amount of electricity used in definite terms; that is, to measure it. If I have reported cases in which I said I use six cells, etc., it has been done for the purpose of being better understood by the non-expert, and partly because we have no instruments which express exactly the measure, as our present galvanometers are not exact, too expensive, and in many cases in reality are only galvanoscopes. Time will come, and I hope very soon, when we will have good, reliable instruments, obtainable at a reasonable price, which will measure the electricity exactly.

Dr. Geo. F. Hulbert, of St. Louis, said: I am a great advocate of electricity. I have even been called an electrical crank. I am surprised that Dr. Van de Warker should use electricity without a means of measuring it. As well use strychnine or quinine without measuring the dose, as to use electricity without measuring it with the galvanometer.

I have recently used electrolysis in a case of chronic pelvic abscess, with complete success. With Dr. Engelmann I have seen electrolysis employed for fibroids of the uterus with gratifying results. Much is to be hoped for from this treatment in gynecological practice.

Dr. George J. Engelmann, of St. Louis, said: Gratified as I have been by the progressive spirit evinced by the labors of Dr. Martin, pleased as I have been to hear of the results he has achieved, yet I have been greatly surprised. I am surprised to hear my friend Dr. Van de Warker, one of our most progressive gynecologists, tell of his patient, though under the influence of an anæsthetic, *writhing in agony* from pain caused by the galvanic current in efforts at electrolysis! I am surprised to hear the gentlemen, especially Dr. Newman, so well known in the field of electro-therapeutics, gauging the force of the galvanic current by the *number of cells* used; and I am surprised also to hear the sensation of the patient spoken of as the limit or measure for the strength of the current. This is the teaching of the past, using the electrode externally, *upon* the tissue to be affected, limiting the strength of the current by the sense of pain experienced by the patient, and expressing the force used in the number of elements needed to destroy it; this current is necessarily a weak one, and to accomplish anything long sittings are needed.

The success of the electric treatment, galvanic or faradic, of to-day—perhaps I should say of the future—is based upon the precise dosing of the remedy, the use of powerful currents, for a short time, but applied *in loco* to and into the tissues. I have followed the footsteps of that able Frenchman, Apostoli, to whom we owe this new departure in electro-therapeutics, and it is my opinion, based upon his success and my own results, that the electric forces, when correctly gauged and directly applied, will prove an invaluable aid in gynecological treatment.

Dr. Martin tells us of a uterine fibroid, of the size of an apple, reduced after six or eight weeks treatment, sittings of twenty to thirty minutes each, repeated every other day.[50] I have destroyed uterine tumors, somewhat smaller, indeed, the largest the size of an egg, in *three* sittings of *five minutes* each, causing the patient no pain. I have reduced to less than one-third of their original size, uterine fibroids filling the pelvis and extending above the navel, in from ten to twelve sittings of five minutes each, treating the patient in my office or clinic, using no anæsthetic, and causing no excessive pain. Remember, that for the destruction of these large tumors I used the galvanic current not longer than fifty minutes or one hour, as long as Dr. Martin does in two or three sittings, but I know precisely the remedy administered. To attain a certain purpose, a certain dose is necessary; for the reduction of a fibroid, we needs must have more than for the treatment of a simple hyperplasia. As a certain dose of morphia, varying slightly with the individual, is necessary to ease pain, and another to produce complete loss of sensation and sleep, so it is with the galvanic current.

The strength of the current must be gauged *by the object to be accomplished*, and *not by the feelings of the patient*, as has been the custom, and by the kind of electrode used we prevent unnecessary pain. The galvanic current must be dosed as we dose other remedies, and in proper dose it must be applied directly to the proper place; definite results may then

[50] The longest sitting I have advised is twenty minutes.—Martin.

be expected. The vague manner in which electricity has been used I have always compared to the rubbing in of quinine for the cure of malaria; unless we give certain doses, at certain times, no decided result is accomplished; in time it may do some good. So it is with the galvanic current; by the long-continued use of the mild currents, sittings of twenty or thirty minutes, every few days, some good will result; but until the galvanometer becomes a part of the galvanic battery, and until currents of known strength are applied directly to and into the diseased tissues, progress in the field of electro-therapeutics is impossible.

A SUPPLEMENTARY PAPER TO DR. MARTIN'S, CITING TWO CASES OF FIBROID TUMOR SUCCESSFULLY TREATED BY ELECTROLYSIS.

BY J. N. FREEMAN, M.D.,
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The electrolytic treatment of uterine fibroids has now been so long before the profession, so thoroughly tested, and so entirely successful, that it is entitled to a place among the recognized means of dealing with these troublesome growths. Fatty tumors have not, in my hands, yielded to its influence, nor have I succeeded in curing cystic tumors; but fibrous growths will uniformly melt away and be absorbed under a proper application of the constant current. The most suitable cases are those intramural or subperitoneal fibroids where ergot is useless, and where, without this resource, we could only hope to cure our patients by removing the uterine appendages or the uterus itself. To illustrate my methods of treatment, I will give two cases in detail, the first of which was read before the Medical Society of the County of Kings, at its regular meeting in June, 1878. The other case has not been reported:

Case 1.—Miss O., aged 35, came under my care in St. John's Hospital in May, 1876. Anæmic, and suffering from extreme nervous debility. Menstruation profuse and painful. Examination revealed a fibroma of the right anterior wall of the uterus, more nearly approaching the peritoneal than the mucous surface. Ergot had been used persistently and in large doses, without benefit. A consultation having decided that no surgical interference was admissible, I determined to attempt the destruction of the tumor by electrolysis.

The first operation was on December 23, 1876, and was done in the presence of Dr. Jos. C. Hutchison, Dr. Wm. Gilfillan, Dr. J. H. H. Burge, Dr. J. R. Bird, Dr. Frank W. Rockwell, Dr. G. G. Hopkins, Dr. A. W. Catlin, Dr. E. S. Bunker, and Dr. Charles Corey. The uterine cavity was found to be five and one-half inches in depth. The tumor was plainly mapped out through the abdominal walls, and apparently of the size of the head of an ordinary child at birth. After she had been placed under the influence of ether, I took a large sail-needle, curved at the pointed end, and insulated to within an inch of the point, and, passing it through the cervical canal, thrust it into the tumor and connected it with the positive pole of a galvanic battery. A straight round needle, similarly insulated, was then thrust through the abdominal wall and into the tumor, taking care to avoid the bladder, and so placed as to come within an inch of the other needle, and then connected with the negative pole of the battery. The tumor was so dense and firm as to require very heavy forceps and much force to drive the needle into it. A current from sixteen cells was continued through the needles for fifteen minutes. No unpleasant effects were experienced, and the patient was out of bed the next day.

I repeated the operation in the same manner on January 2, 1877, continuing the current for twenty minutes, and again on January 9, this time increasing the number of cells used to twenty-four, and the time to twenty-two minutes. The next week her menstruation was less profuse and less painful than usual. I repeated the operation February 6 and 12, increasing the time to half an hour and using thirty-two cells.

March 6, before the sixth operation, the uterus measured four inches and a half in depth. The tumor, or what remained of it, was soft to the touch, and the needle could be easily passed in any direction through it with the fingers. Her general health was much improved. The seventh operation was Mar. 12.

April 3 the sound passed into the uterus only to the depth of three inches and a half. This, the eighth and last operation, was unfortunate, as the needle that was passed through the abdominal wall was stripped of its insulating covering and the track of the needle so much irritated as to cause an abscess that was slow in healing.

I left her in the hospital in June for a long trip in the East, and did not return for eight months, during which time she had no medical treatment. On my return I made a careful examination, and found no trace of the tumor. The sound would pass but two inches and a half into the uterine cavity, and the uterus was freely movable in the pelvis. I have examined the lady at least once a year since that time, and saw her only last week in excellent health and with no symptoms of ever having had any trouble in the pelvic cavity. Her menstrual periods are regular as to time and quantity, and are painless.

My *fifth* case was referred to me on Feb. 12, 1885, by my friend Dr. Alexander S. Clark.

Case 5.—Mrs. H., aged 31; married six years; no children. Menses always scanty and painful. A fibroid tumor, the size of a large cocoanut, occupied the anterior uterine wall. The cavity of the uterus measured five inches and a quarter in depth. The tumor was attached by its entire anterior surface to the bladder, preventing contraction of that organ to expel the urine, and thus causing a severe chronic cystitis. This lady was very much debilitated, and not able to leave her bed without assistance.

In this case I operated three times, February 16, April 29, and June 4, 1885, using for the positive pole a platinum probe, not insulated, passed to the fundus of the uterus; and for the negative pole, the straight, insulated steel needle, passed through the anterior wall of the abdomen, and into the tumor. I used thirty cells for about half an hour on each occa-

sion. The tumor was quite soft and two-thirds gone at the time of the third operation, and her health had steadily improved.

In September she walked from her house to my office and back, the distance of a mile each way, and has been in fair health since. The action of the uninsulated probe in these operations produced enough irritation to partially occlude the cervical canal, which needed some after attention. The uterus is now freely movable in the pelvis, is of the normal size, and has no remnants of the tumor. The bladder has entirely regained its healthy tone.

I have now treated eight cases, and have seen cases treated by other surgeons with my needles, and from this experience have come to the following conclusions:

When the tumor is sub-mucous or intra-mural, the positive pole should be attached to a curved platinum needle, insulated to an inch from the point, and which has been passed through the cervical canal and thrust into the tumor. This course may be followed in sub-peritoneal tumors if the base is broad enough to be sure of inserting the needle into the tumor, and not one side or beyond it.

In other cases, or where the tumor is sub-peritoneal, with a narrow pedicle, the positive pole should be connected with a large platinum probe, insulated to an inch from the end, to be inserted to the fundus of the uterus or to the vicinity of the base of the tumor. In all cases the negative pole of the battery should be connected with a straight, round, smooth steel needle, strong enough and properly tempered not to break, and insulated to one-half or three-quarters of an inch from the point, and this thrust into the tumor from the most available point, whether through the vaginal walls or through the abdominal parietes, taking care not to wound the intestines nor the bladder.

Sixteen to thirty of the ordinary zinc-carbon cells is as strong a current as I would advise, and from fifteen to forty minutes the limit of time. An anæsthetic is always required. It is better to give plenty of time between the operations than to be in too great a hurry. Once, or at most twice, between the menstrual periods is often enough, and if there is much reaction, that may be too often.

I have had no experience in treating those immense fibroids measuring twelve inches or more in diameter, that we occasionally see, but am confident that they can be cured, in the large proportion of cases, if taken in the earlier stages, at the time when they usually come under the notice of the physician.

80 Hanson Place, Brooklyn, N. Y., June 26, 1886.

POTASSIUM CHLORIDE.[1]

BY ASA F. PATTEE, M.D.,

OF BOSTON, MASS.

Nothnagle and Rossbach, in their "Treatise on Materia Medica," say that "therapeutically potassium chloride is not used." We find no mention of its use in the United States Dispensatory, National, or the various works on materia medica. Sander has recommended its use in epilepsy in place of the potassium bromide. Opinions vary as to its usefulness in that disease. It has its place, however.

Potassium chloride closely resembles common salt in appearance; it crystallizes in anhydrous centres; permanent in air, soluble in three parts of cold water; has a simple saline taste not as pronounced as common salt.

Formerly it was generally considered that the corresponding salts of potassium and sodium had the same physiological and therapeutical action upon the animal body; and it was a matter of indifference which salt was used. It is now known, however, that this is by no means so, and that important and well-defined distinctions do exist in the two salts.

In the body the potassium chloride is found in the tissues, cells and blood-corpuscles, while in the fluids (the serum of the blood, lymph and bile), we find almost exclusively sodium chloride. Arterial blood mixed with a dilute solution of potassium chloride becomes brighter than that mixed with a solution of sodium chloride. Potassium chloride given in 20-grain doses with 15-grain doses of sodium chloride three times a day after meals, causes an increase in the molecular tissue and red blood corpuscles, a fact that I myself have proved.

The effect of potassium, citras and acetas when introduced into the system, is to cause the excretion of a large amount of sodium chloride in proportion to the amount given. The potassium chloride does not interfere with the normal amount of sodium chloride in the fluids or solids of the body.

That potassium chloride is essential for the development of the animal tissues is shown by the fact that food which in itself is not sufficiently nutritious, such as over-boiled meat, recovers its properties on the addition of potassium chloride and a small portion of sodium chloride (Binz). Experiments with plants show also how necessary potassium is for cell nutrition.

For many years I have used potassium chloride, and find it a valuable medicine either alone or in combination with other medicines. I have used it in many cases of anæmia after other well-known treatment had failed to do good, with the most happy results. The dose usually given was 5 grains every three hours in a wineglass of water. In the commencing stage of cirrhosis of the liver due to alcoholic excess it has apparently been of benefit.

Exudations after inflammation with effusion of lymph, particularly pelvic cellulitis, have quickly disappeared under its use. In glandular enlargements, in my hands it has been of more benefit than calcium chloride or the iodine compounds. In stomatis of pregnant women or from mercury it is equal to the chlorate. In ovarian neuralgia with nervousness and menstrual headache accompanied with wakefulness, this salt has given better results than the bromide or ammonium chloride. When combined with corrosive sublimate it is one of the best preparations for syphilis. I usually give it as follows:

[1] Read in the Section on Practical Medicine, at the Thirty-Seventh Annual Meeting of the American Medical Association.

℞. Potassii chloridi..... ℥ij.
Hydrargyri chlo. corros..... gr. i.
Aquæ..... ℥iv.
M. S. 10 to 20 drops every two hours in wineglass of water.

This preparation I have used almost exclusively in the treatment of syphilis in both its acute and chronic stages, and the result has been most satisfactory. The tincture ferri chloridi is much improved in its therapeutic action when given with potassium chloride.

It is my desire that those of our profession who have not used the potassium chloride may investigate its therapeutic action, of which I can assure them it will verify my statement. The dose will range from 20 grains to 2 drachms in the twenty-four hours, well diluted with water.

EMBOLISM.[1]

BY J. W. THOMPSON, M.D.,
OF ST. PAUL, MINN.

The detachment of fibrinous deposits from the interior of the heart is an occurrence so thoroughly recognized and understood by the profession, that it seems almost superfluous for me to invite your attention to this subject. The cases to which I desire especially to direct your attention, contain nothing that has not been carefully canvassed by more competent observers than myself. Yet aside from the interest they may possess for the ophthalmologist, they are sufficiently rare from a broader standpoint to possess also much interest for the general practitioner. It could scarcely be considered a presumption in me to believe that you will readily pardon me for being found occasionally outside of the strict limits of my specialty, discussing matters that are of vital interest to both you and me. The links that connect diseases of the eye with systemic diseases are numerous. To understand and to treat diseases of the eye intelligently and successfully, require a theoretical and practical knowledge of the treatment of systemic diseases.

Embolism is only a symptom and it is not infrequently seen by the ophthalmologist in the early stages, from the very fact that small arteries, such as the retinal, are often obstructed first. The very circumstance of the existence of an embolism, whether it be of the retinal artery or of any other, presupposes at least a disease of the heart or large arteries. One of the cases to which I shall directly invite your attention proved to be only a symptom of an existing endocarditis. In this disease paresis of the heart constitutes the actual danger while valvular lesions form the ultimate danger. In the beginning of endocarditis, before there has been any detachment of vegetations to obstruct even small arteries, the functional disturbances and subjective symptoms have no well marked characteristic features. The most of them appear either isolated or combined in other diseases of the heart and its envelopes, or even in the affections of distant organs. It is then upon the physical signs alone that a diagnosis can be founded, since the antecedent symptoms can only furnish presumptive evidence as to the nature and seat of the lesion. The symptoms of endocarditis and pericarditis so closely resemble one another that they may be confounded and can only be accurately distinguished by means of auscultation. The auscultatory signs by which a differential diagnosis can be determined are as follows: "In endocarditis the murmur is synchronous with the first sound of the heart, and does not occur with the diastole unless regurgitation takes place through the aortic or pulmonary semi-lunar valves, and the murmur is heard loudest at the apex of the heart." "In pericarditis the murmur is not exactly synchronous with the valvular sounds, and often occurs during both the systole and diastole of the heart, and the murmur is heard loudest at the border of the sternum near the fifth left costal cartilage."

This affection of the heart is frequently caused by rheumatism, chorea, pyæmia, or the acute exanthematous fevers (Ingals). In endocarditis numerous vegetations accumulate on the surface of the aortic or mitral valves. These vegetations become detached and float about in the circulation, occasionally plugging up small arteries, and when large enough larger arteries become obstructed by them. The secondary affections that may result from this infarction of different arteries by these detached vegetations are loss of vision from obstruction of retinal artery, gangrene of a leg or an arm by cutting off the circulation, swelling and inflammation of the spleen, acute atrophy of the liver, pneumonitis, cerebral disease, etc.

Case 1. A man, Mr. L. C., aged about 30, of very stout build, a carriage ironer by occupation, and with an excellent family history on both sides, consulted me on account of a very sudden blindness of his left eye. Up to this time he had enjoyed very good health with the exception of a slight attack of rheumatism which had occurred a few weeks before I saw him. From this, however, he seemed to have fully recovered. On ophthalmoscopic examination I observed the very characteristic appearances of an embolism of the retinal artery. The optic disc was quite pale and transparent, and the arterial vessels thin, and here and there changed into white bands with an occasional red plug of coagulum. The media was quite clear. In the course of a week or ten days there was a well marked improvement, absorption having taken place and the circulation in the retina began to be reëstablished with a return of a considerable amount of sharpness of vision. In the course of a week or ten days vision in this eye had so far advanced that he could see to go about very comfortably. The other now became affected in a like manner and pursued a similar course. When this one began to improve, the one first attacked had very nearly recovered full sharpness of vision. Examination by auscultation revealed, but not clearly, what seem to me to be an endocarditis. I consulted a brother practitioner for whose opinion I entertained much respect, and he confirmed my diagnosis.

In a few weeks the physical signs of endocarditis became better marked, when he was suddenly seized with a severe pain in his right arm which extended

[1] Read before the Minnesota State Medical Society, in Minneapolis, June 17, 1886.

from a short distance above the elbow to the wrist and hand. I was called to see him in bed very much prostrated with the pain. The arm was much cooler than its fellow and almost or quite pulseless. There was a knotty tumor in the brachial artery near its bifurcation. The circulation in the radial and ulnar arteries was entirely cut off. For the relief of the pain I employed a hypodermic injection of morphia, applied warm, stimulating embrocations and encased the arm in cotton-wool. I prescribed large doses of bicarbonate of potash with a view of rendering the small pieces of coagula that might yet be floating about in the circulation more soluble. The next day, notwithstanding the arm had been maintained in the horizontal position and kept under the bed-clothes with the application at intervals of every hour or two of warm stimulating embrocations, was quite pale, cool, shrunken and pulseless. In short, the vitality of the limb was with difficulty preserved through the timely efforts of the anastomosing branches. The recovery was slow but upon the whole satisfactory. The pulse by degrees returned, but up to the time I saw him last, which was two years from the date of the attack, was perceptibly feebler than in the left arm. This arm he informed me, always became cold much easier than the left, and in consequence of this he was obliged to keep it clothed warmer than its fellow. The strength had very materially increased so that he could support nearly as heavy weight with it as with the other, but for a much shorter time.

Case 2. Mrs. E. H., a married lady, 27 years of age, became a patient of mine in October, 1865. She had been under the care of a neighboring physician for some weeks. Since he expected to be absent from home for a protracted period, he requested me to take charge of her case. He informed me that about four weeks since she had aborted at or near the fourth month of gestation. The placenta had never, to his or the patient's knowledge, come away *en masse*. As a result of this she was then suffering from septicæmia, which confined her in bed for a period of five or six weeks from the first date of my attendance. Several large abscesses formed in the region of the hips. During this time she became very suddenly blind in her right eye. The sight of this eye was never recovered. A subsequent ophthalmoscopic examination demonstrated that this had been the result of an embolism of the retinal artery.

In about four weeks from the date of the loss of the eye, she had sufficiently recovered health and strength to enable her to be out of bed and about the house a good share of the day. At her urgent request her nurse gave her a warm sponge bath. The next day I was called to see her and found her pulse somewhat over 100, her tongue tremulous and slightly furred, her bowels constipated, and her skin hot and dry. The sounds of the heart were normal. In the lower part of the right leg there was but little feeling. The foot was cold, shrunken and livid. At the lower end of the middle third of the femur there was a hard knot or tumor which was sensitive and painful. There was no circulation in the limb below the tumor. The pulsation of the femoral artery above the tumor was very feeble and easly compressed. This state of affairs continued for five or six days when the limb below the knee became gangrenous. The line of demarcation formed close to the knee joint. She was at this time considerably reduced in strength, and I entertained very serious doubts as to her recovery or even her ability to survive an amputation of the limb. By the request of the patient's relatives the late lamented Dr. W. H. Mussey, of Cincinnati, was called in consultation. Notwithstanding the very much reduced condition of the patient's strength, he advised the immediate amputation of the limb well above the line of demarcation, He also entertained very serious doubts as to her surviving the operation, but of course, it was the only procedure that offered the slightest prospect of relief. Accordingly the limb was amputated. Before tying the arteries plugs of coagula one or two inches in length were drawn out of each artery. The stump did badly for two weeks, discharging large quantities of pus. The flaps sloughed some but finally united. The sloughing and suppurating gave rather an unsightly appearance to the stump, but it finally became sound and proved to be a very useful one. The patient became hearty and robust, and continued to increase the number of her family for several years thereafter.

The cause of the embolism in this case seemed to be due directly to the septicæmia, since there never appeared any heart complication. Dr. Mussey reported the case in a clinical lecture to his class in the Miami Medical College. I preserved his remarks for a long time, and thought when I commenced preparing this paper that I should be able to avail myself of his valuable observations, but the document had become misplaced, and I am obliged to forego both the pleasure and the profit thereof. Perhaps some of the older members present may have seen his report and remember more of the details than I have recited. I have often debated the subject in my mind whether the warm sponge bath had any direct agency in producing the embolism, or whether they were only contemporaneous events.

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MEDICAL PROGRESS.

A New Explanation of the Process of Menstruation.—Lœwenthal (*Archiv. für Gyn.*, B. xxiv, Hft. ii, 1884), in an exhaustive article, gives a new theory of menstruation which shows marked originality and research. It would be impossible, in the short limits of this report, to give an abstract of the elaborate train of reasoning by which he arrives at the results. They are summed up briefly at the end, and we would refer those interested in the subject to the article itself for the minute details. He makes the following propositions:

1. The periodical flow of blood from the female genitals is not a consequence of the rupture of a follicle (which usually occurs at the same time), but of the degeneration of the uterine mucous membrane, which has become hypertrophied before such rupture, and independently of it.

2. This growth, the menstrual decidua, is caused by the imbedding in the unimpregnate condition of the last ovum furnished by the ovaries.

3. If this imbedded ovum is impregnated, the menstrual decidua becomes that of pregnancy, but if the ovum remains unimpregnated, it degenerates as a consequence of the death of said ovum.

4. Taking each menstruation for itself, the rupture of the follicle and the flow of blood stand in another causal relation to each other in that possibly the causes and conditions which are operative at the occurrence of the hæmorrhage may, at the same time, have an effect in bringing about the rupture of a ripened follicle.

5. The concidence of the rupture of a follicle and the flow of blood is, therefore, no necessary one. Each can occur separately; a follicle can rupture without there being any menstrual decidua present, and this secondary consequence of the ovum, which has previously made its appearance—namely the menstrual flow, can occur without a new follicle rupturing at the same time.

6. The periodicity of menstruation is determined by the extra-follicular life of the unimpregnate and imbedded ovum; the variations from the general or individual periodicity depend upon the shortening or absence of such capacity for life, either idiopathic or the result of intercurrent influences.

7. The ovum which has been expelled, usually at the last menstruation, and is present ordinarily in the uterus (in abnormal cases elsewhere), is the one which is impregnated. From these the following practical conclusions can be drawn:

8. Since the menstrual flow is neither a physiological function, nor the necessary accompaniment of such a function, but the direct consequence strengthened by innumerable repetitions of a process which is the result from social conditions—namely, the unimpregnation and death of the human ovum, therefore it has all the properties and results of other hæmorrhages which are always pathological.

9. It increases and diminishes under like conditions with them.

10. The flow of blood which is the necessary accompaniment after menstrual decidua, is only to be regarded as harmless when it occurs *per diapedesin*. When *per rhexin*, it is under all circumstances unnecessary, and becomes injurious when it is felt and responded to by the entire organism as a loss.

11. The amount of the injury corresponds to the proportion between the amount of blood lost, and the quantity (plus the quality) of blood which the body contains at the time.

12. Under these circumstances the indication is for the greatest possible reduction in the amount of the menstrual flow, as of any other loss of blood.

13. The means to be recommended are first and foremost rest in bed, and hot water injections.

14. On the contrary, the voluntary cessation of the menses (idiopathic amenorrhœa), is under no circumstances to be regarded and treated as a disease, it is only a sign that a function (ovulation) which is not necessary to the life of the individual, from some cause or other (youth, age, pregnancy, lactation, debility), was not properly performed at the proper time, that is about four weeks previously.

15. Supported by this theory, and the observation of Lawson Tait as to the importance of these tubes for menstruation, it would be desirable to substitute for castration, salpingotomy (partial resection of both tubes after previous ligation) in those cases where uterine dysmenorrhœa, menorrhagia, fibroids, and such uterine affections call for the anticipation of the menopause.

16. Should it appear impossible after beginning the operation for castration in the above mentioned conditions, to completely remove the ovaries, salpingotomy would be directly indicated.—*Glasgow Medical Journal*, May, 1886.

THE BLOOD IN LEUKÆMIA, TOGETHER WITH OBSERVATIONS RELATING TO THE ORIGIN OF THE FIBRIN FERMENT.[1]—According to the ideas of Alex. Schmidt, fibrin is formed in the coagulation of blood and serous fluids by the action of three substances. One of these exists formed in the fluid; it is regarded as the groundwork proper, and has been called fibrinogen. The other two, called respectively the fibrinoplastic substance and fibrin ferment, are presumably derived from the white corpuscles, that are destroyed and are formed at the time of coagulation. In this destruction of the leucocytes there is supposed to be an interaction of the blood plasma and the protoplasm, in which the former takes from the last the constituents necessary to form the fibrin element.

In some cases of failure of the blood to clot, it has been regarded as due to an insufficient breaking up of the cells above mentioned. In other words, there is blood in which all the stuff necessary for the formation of the ferment is present; but in which this never is made, because the blood plasma has been so altered as to be deprived of its destructive agency.

One author thinks this to be the case in blood in leukæmia. From the standpoint of Dr. Schmidt this would not be expected, as from the large amount of white cells the action should be very energetic.

In order to prove which view was correct, blood was drawn from a leukæmia patient, in which were 2,000,000 red and 630,000 white corpuscles to a cubic millimetre. The venous blood did not coagulate particularly slowly, but the fibrin was poorly developed, soft, and did not contract firmly. On a further addition of leucocytes the time of clotting was prolonged. On the other hand, that of filtered plasma from the horse was greatly accelerated by the addition of one-seventh of its volume of leucæmic blood.

In the blood from the cadaver of this patient only traces of the free ferment could be detected with the proper reagents. If instead of the entire blood only the white corpuscles, which were deposited on standing, were alone added to the horse's plasma, the time of its coagulation was much retarded. From these experiments the author concludes that in reality the groundwork for the development of fibrin ferment was present in the leucæmic blood, but that its plas-

[1] J. v. S. Himmelstjerna. Fortschritte der Medicine, 1885, p. 669.

ma could not form the true ferment out of this as in the normal plasma of the horse.

In the leucæmic blood the formative materials of the ferment are kept attached by the white corpuscles. But from the investigations of the author they were found in solution in fluids that are capable of coagulation. Examination of the filtered plasma before and after this showed that the amount of ferment was greatly increased during the process. Since the formed elements were wanting here, the fibrin must be formed entirely from substances in solution. The action of a fluid obtained from a hæmorrhagic cyst in the neck also favored this view. It contained but few cells and did not coagulate spontaneously. Nevertheless, filtered normal plasma separated considerable quantity of the ferment from this. The filtered fluid also acted on the horse's plasma not only in shortening the time of coagulation, but also by increasing the amount of fibrin formed.

The author finally turned his attention to a consideration of the nature of the substance which formed this substratum of the ferment, and he concludes that it comes from the retrograde metamorphosis of the albuminous bodies. He tried, therefore, if the addition of any of these bodies would accelerate the process. The results obtained in this way were variable, but on the whole were in accordance with the theory. The experiments were more successful, however, when conducted in the following way: A solution of one per cent. of glycocholate or taurocholate of soda was added to the filtered plasma, which entirely deprived it of its spontaneous coagulability. If to this one of the above mentioned products be added, fibrin is formed in a few hours. Whether these are themselves the sources of it, or whether they simply increase the activity of that already in solution (by decreasing any resistance) is left undecided by the author.—*Boston Medical and Surgical Journal*, May 27, 1886.

The Salicylic Treatment of Glycosuria.—From his recent researches, Prof. Latham concludes that there are two distinct kinds of diabetes. First, there is that which arises from a neurotic disturbance of the function of the liver; this has the effect of arresting the metabolism of the glucose, and allowing it to pass unchanged into the general circulation and appear in the liver. Second, that which arises from a neurotic disturbance of the function of muscle; this allows glucose to form in that tissue, and to pass unchanged into the general circulation and appear in the urine. He has also shown that this second kind of diabetes is intimately connected with rheumatism; so intimately, that a degree of more or less oxidation determines whether the muscular tissue generates an abnormal amount of lactic acid or of glucose in the system. Moreover, he has shown that when salicylic acid is administered, it has the property of arresting the formation of both lactic acid and glucose, by means of a chemical combination which it forms with the antecedents of these products.

These views are to some extent confirmed by an article published in the *Therapeutic Gazette* of last year, page 446, by Dr. Thomas J. Yarrow, in which are outlined four cases of the complete disappearance of sugar in the urine under the continuous administration of salicylate of sodium. In the *British Medical Journal*, May 1, 1886, Dr. Holden in a very valuable article calls attention to the rheumatic glycosuria, and reports six cases of rheumatic glycosuric patients in all of which the administration of salicylic acid produced a great reduction in the quantity of urine and entirely removed the sugar. In several of these cases there was no restriction in diet ordered. Dr. Holden has also used salicylic acid in four other cases in which no rheumatic symptoms existed, and in all failed to make any impression on the polyuria or sugar. The first and most marked effect of the salicylic treatment, according to Dr. Holden, in the glycosuria of rheumatic persons, is the almost complete removal of the distressing polyuria which accompanies it.

As to diet, the careful restriction which is so imperative in the diabetes of hepatic origin is not so necessary in this kind; still, Dr. Holden thinks it greatly helps to restrict the formation of glucose in the system, by prohibiting potatoes, farinaceous puddings, and sugar as much as possible.

In administering salicylic acid, the following mixture has given good results: ℞. Salicylic acid, ʒii; bicarbonate of sodium, ʒi; carbonate of ammonium, ʒi; mix in water, ℥i; and, when effervescence has subsided, add water to ℥xii. One-eighth or one-twelfth part to be taken three times a day. This is a soluble neutral mixture, and is not unpalatable when given in a wineglass of water, with a little tincture of orange peel added. The ammonia prevents any depressing effects. Dr. Holden has tried the free acid made into 3-grain pills with mucilage, as recommended by Dr. Latham in rheumatic fever, but has not found them superior to the mixture, while patients object to swallowing five or six pills as a dose.

It is a matter of much importance, with regard to treatment, to be able to distinguish between the two kinds of diabetes. The presence or absence of rheumatic arthritis, pains, and cramps, is often sufficient; but Dr. Latham has recently called attention to a more certain mode of distinguishing between the two, as he has found that in the diabetes of rheumatic persons—that is, originating in the muscular tissue—the urine contains some substance which dissolves cuprous oxide; so that a larger quantity of Fehling's test has to be added before getting the brown precipitate in this urine than in the diabetic urine of hepatic origin.—*Therapeutic Gazette*, June 15, 1886.

Terebene as a Generator of Ozone.—In a recent note on this subject, Dr. A. M. McAldowie says: The treatment of lung diseases by inhalation is beginning to be adopted by the profession at large. It has been for years my favorite method of treatment, in a district where, unhappily, pulmonary complaints are unusually abundant. In the *British Medical Journal* for 1881 (vol. ii, p. 666), I stated that, after four years trial, I had adopted terebene in preference to other antiseptics, and had administered it

both internally and by inhalation in over two hundred cases of phthisis, bronchiectasis, chronic bronchitis, and other pulmonary complaints characterized by profuse purulent expectoration. Further experience has strengthened this opinion. In connection with this subject, I wish to call attention to a point which appears to have been overlooked by recent writers on the subject, namely, the formation of ozone which attends the slow oxidation of the various members of the turpentine group. When I went to reside at the North Staffordshire Infirmary, ten years ago, I was struck with the remarkable success which attended the treatment of chronic lung diseases; a fact which I at first attributed solely to the elevated site of the hospital. But I afterwards noticed that there was a high percentage of ozone in the atmosphere, especially when the wind was from the west, where there are extensive tracts of pine woods. It is well known that the air in pine woods contains a large amount of ozone. Mr. W. Goss, a pottery manufacturer in Stoke, informed me that he had noticed that the men and girls employed as enamel painters were exceptionally healthy compared with the other pottery workers, although the hygienic conditions were mostly unfavorable; the painting having to be done in hot close rooms. He attributed this entirely to the turpentine, which is used as a medium for mixing the colors. Spirit of turpentine is exposed in the room, in flat leaden vessels, where it speedily oxidizes. Part of the oxygen liberated attacks the vessel, which becomes coated with oxide of lead; the rest escapes into the atmosphere in the form of ozone. Pursuing this subject still further, I have made inquiries at several small shops where paraffin is sold, and have found that the inmates are unusually healthy and fresh-looking, considering the bad hygienic construction of their dwellings. I have likewise found two cases where the vendors had previously suffered from chronic chest disease (consumption, they told me), and had taken to selling paraffin, in addition to their other articles, and the result had been permanent relief of their ailments. Bearing these facts in mind, I have, for some time past, treated chronic lung cases by exposing terebene and turpentine in the room, in flat shallow dishes. The results have been, as yet, satisfactory, but further trial is necessary before a definite conclusion can be drawn. I shall be obliged if any member of the Association can inform me whether any statistics have been made as to the health and immunity from lung diseases of residents of pine woods, venders of, and workers in, paraffin and other volatile hydrocarbons; and also whether any experiments have been made by exposing any of the above substances in wards for consumption, or other sick chambers. If a curative action can be proved, it would be useful in indicating a site for a sanitarium for chest diseases.—*British Medical Journal*, May 29, 1886.

FREQUENCY OF DISEASE OF THE UTERINE APPENDAGES.—At the close of a paper on this subject DR. H. C. COX, of New York, draws the following conclusions:

1. Ovarian disease is *not* as common as it has been represented; the surgeons, and *not* the pathologists, being responsible for the prevalence of the contrary opinion.

2. Because an ovary is partially diseased, it does not follow either that its functions have been materially impaired, or that its removal is imperative.

3. The expressions "cirrhosis" and "cystic degeneration" commonly applied to the ovary are mischievous terms, which are too often used in justification of *unjustifiable* operations.

4. Actual disease of the tubes is far less frequent than is generally believed. Lesser degrees of inflammation, especially slight "catarrhal salpingitis," are seldom appreciable to the pathologist, still less to the surgeon.

5. Many of the symptoms ascribed to disease of the uterine appendages are really due to *localized peritonitis*, and will *not* be removed by a removal of the appendages.

6. The physiology of the ovaries and tubes is still imperfectly understood; their pathology must then remain *sub judice*, and operations for their removal, on the ground of limited disease alone, must be regarded as largely empirical. To which I would venture to add the prediction:

7. The present enthusiasm in this country in favor of Tait's operation will not endure, because it will eventually be discovered that the number of *permanent* cures is entirely out of proportion to the number of operations.—*Am. Jour. of Obstetrics*, June, 1886.

"HOT EYE" IN ASSOCIATION WITH GOUT.—MR. JONATHAN HUTCHINSON, in a note on this subject, says: The following item of evidence is, I think, valuable reference to the connection of certain diseases of the eye with gout. A gentleman, named W., consulted me on account of attacks of irritability, first of one eye, and then of the other. The eye would become a little red, and feel as if he had sand in it. The attacks would usually last from two to four days, but they recurred very frequently, and were a source of much annoyance. He had made his own diagnosis before coming to me, and remarked, "I never knew what they meant until, a year ago, I had an attack of gout in the great toe." He was of dark complexion. He had, of late, been very careful in his habits, but he inherited gout strongly on both sides. Having noticed the identity of names, I asked him if he was a relative of a certain Dr. W. "Yes," he said, "I am his first cousin, and there is the same inheritance in both of us." In the latter case the patient, then a young man, lost one eye from recurrent attacks of iritis, and had much damage to the other. His case is given in the series which I have published, illustrating the peculiar form of destructive iritis which goes with hereditary gout. Thus the two cases support each other, and afford strong evidence: firstly, as to the connection, with inheritance of gout-tendencies, of the destructive form of iritis; and, secondly, with personal proclivity to gout of the "hot eye."—*Brit. Med. Jour.*, May 29, 1886.

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THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, JULY 24, 1886.

HEPATIC PRESSURE AND THE CONDITION OF THE RIGHT SIDE OF THE HEART.

In the *Lancet*, of May 15, DR. W. PASTEUR calls attention to a rather novel and apparently valuable method of estimating the condition of the right side of the heart. It has been known for some time that when, under certain conditions, pressure is made over the liver a distension of the superficial veins of the neck is seen. Dr. Pasteur has found that in cases which showed evidence of great over-distension or failing compensation in the right heart, there is a distension or over-filling of the external jugular veins, apparently from below, with or without pulsation or undulation, which takes place when pressure is exerted in the right hypochondriac or epigastric regions with the flat of the hand, the direction of pressure being backwards and upwards. The patient should be first placed in the recumbent posture, with the neck slightly extended and the head turned a little to one side, care being taken that the muscles of the neck are not in a state of tension. "The sign is usually best marked on the right side, but may in almost every case be demonstrated on the left side also. It is essential that the movements of respiration should be normally maintained throughout the examination."

Dr. Pasteur believes this sign to be invariably present in well-marked tricuspid incompetence, whether functional or due to disease of the valves. This he has had confirmed by four autopsies. And besides these cases there are a considerable number which ultimately recover, in which the sign is present at one time or another with varying intensity. "Such are instances of mitral valvular disease, whether regurgitant or stenotic, and of chronic pulmonary emphysema, complicated with acute or severe general bronchitis." Dr. Pasteur has frequently observed a partial filling in of the supraclavicular fossa when the pressure is first made, and this is especially marked in thin subjects. It may perhaps be accounted for to some extent by simple mechanical displacement; but he thinks it chiefly due to an involuntary arrest or modification of breathing, and almost always subsides in a few moments. Of course the amount of pressure required varies in different persons, and in some cases there may be such rigidity of the abdominal muscles that pressure cannot be made directly upon the liver. The pressure should be gradual and steady, as otherwise an attack of coughing may be induced. The manipulations should be discontinued on the occurrence of pain.

Should this sign be regarded as evidence of slight tricuspid incompetence, or simply of great over-distension of the right heart falling short of tricuspid failure? This is an important question, as these are the cases in which we must consider tricuspid incompetence from a prognostic point of view. "Venous pulsation is generally absent, and often the cervical veins are but slightly distended. Not infrequently there is undulation at the spot where the distension of the vein ceases. This may be systolic only, or double, and synchronous with the heart beats. The valves of the external jugular veins are usually competent, and the veins empty completely with each inspiration, The effect of pressure below the ribs varies in these cases with the amount of obstruction to the venous return. 1. In the least marked cases, the vein, although not perceptibly distending under the pressure, is seen, nevertheless, not to empty completely during inspiration. 2. In others a degree more severe, a moderate distension results; the vein becomes visible as far as the anterior border of the sterno-mastoid muscle, more rarely as high as the angle of the jaw. At the same time the spot where the undulation was visible becomes shifted higher up the vein, and the character of the undulation is not infrequently modified, the double variety being replaced by a simple systolic flicker, the single variety usually disappearing altogether. 3. In cases yet more severe, but in which the usual signs of tricuspid regurgitation are not developed, the pressure sign is often elicited with great distinctness, with or without undulation, and is, I think, here to be regarded as indicating early tricuspid failure." In the second class of cases, differing from the third in degree only, Dr. Pasteur is inclined to think there is great overdistension of the right heart, possibly with excessive strain on the valve-cusps, but falling short of regurgitation.

What is the mechanism of the production of this phenomenon? Undoubtedly it is complex. Dr. Pasteur suggests the following factors as entering into it: 1. Compression of the inferior vena cava by the liver, especially in cases in which the liver is enlarged. It is not necessary that the liver should be enlarged, but this compression of the vena cava by the liver probably acquires more importance in cases of tricuspid regurgitation with pulsating liver. 2. The second factor is probably a lessening of the inspiratory action of the thorax from interference with the movements of the diaphragm; and Dr. Pasteur thinks this a more important factor. "It may be urged against it that, if true, pressure below the ribs should produce the same effect in healthy individuals. But I think it may be fairly argued that, whereas in health the heart and lungs may, and do almost immediately, adapt themselves to slight modifications of pressure, etc., within the thorax, it does not follow that in disease they possess the same capacity." 3. Direct mechanical interference with the proper movements of the right side of the heart is probably the third factor, and will be readily understood when we recall the anatomical relations of the right auricle and ventricle to the diaphragm and liver.

The absence of this sign may be a valuable diagnostic guide. Dr. Pasteur reports a case in which there were symptoms of severe bronchitis and emphysema, the external jugular veins being distended and filling rapidly from below, but not pulsating visibly. Examination of the chest showed nothing beyond marked emphysema and somewhat increased resistance, without dulness, and slight bronchitis of the larger tubes. Firm pressure below the ribs produced no change in the external jugular veins, and there was no clear evidence of obstruction of veins within the thorax. On this evidence a diagnosis of intra-thoracic growth obstructing the superior vena cava was made, and the diagnosis was confirmed by the autopsy.

CREMATION.

"A HASTY ENDORSEMENT.—At the last meeting of the American Medical Association the following resolution was adopted by a majority of 159 to 106: '*Resolved*, That cremation or incineration of the dead has become a sanitary necessity in populous cities, and that this Association advises its adoption.' This is an example of the hasty and careless action which too often characterizes our societies. While cremation is an excellent thing for those who like it, it has not yet been demonstrated that it is 'a sanitary necessity in populous cities.' The cremationists have not yet been able to trace a disease, much less an epidemic, to the suburban graveyards of our populous cities. We have always commended the practice of cremation as an advance in sanitation, but it is too soon to call it a necessity."—*The Medical Record*, July 17, 1886, p. 72.

We have copied the above paragraph entire from a recent number of *The Medical Record* for the purpose of correcting the erroneous impression it conveys concerning the action of the Association on the subject of cremation at its last meeting. The official record of the proceedings shows that on the third day of the meeting of the Association Dr. J. M. Keller made a report on cremation which closed with the resolution quoted by the *Medical Record*. A motion to lay it on the table was negatived. Then, under a call for the previous question cutting off discusssion, the resolution was adopted by a vote of 159 to 106, as stated in the *Record*. But a motion was immediately made to reconsider that action which was carried by a vote of 198 to 70. Then, on motion of Dr. John Morris, of Baltimore, both the report of Dr. Keller and the resolution appended were referred to the Section on State Medicine. The following day the Section on State Medicine reported to the general session of the Association the following resolution, which was adopted: "*Resolved*, That a Committee of this Section be appointed to *further consider* the subject of cremation, with instructions to report their conclusions to the Section at the next annual meeting of the Association." The President appointed Drs. J. M. Keller, of Hot Springs, Ark., John Morris, Baltimore, Md., F. Formento and Samuel Logan, of New Orleans, La., and G. S. Franklin, of Ohio, on the Committee.

It is thus evident that instead of "A Hasty Endorsement," the American Medical Association is likely to take quite as much time for the consideration of *cremation* as the most conservative could ask for.

A STUDY OF THE SENILE TESTICLE.

In the May, 1886, number of the *Annales des Maladies des Génito-Urinaires* is an article under the above title, by H. G. ARTHAND, in which the following conclusions are drawn: "1. At about the age of 50 years the human testicle is subject to a gradual regression which induces atrophy. 2. This atrophy is characterized by a marked pericanicular sclerosis and by the disappearance of the epithelial element. 3. As a result of the sclerosis there appear atrophy of the seminiferous tubules, varicose dilatation of the ducts of the epididyma, and later the formation

of cystic cavities. 4. The sclerosis and its accessory phenomena may be regarded as the result of vascular lesions and of the insufficient nutrition of the seminal glands in advanced age."

It would be interesting to know where M. Arthand obtained the specimens from which such extraordinary conclusions were drawn. To take the conclusions seriatim, we are informed that at about the age of 50 years the testicle is "subject to a gradual regression which induces atrophy." We are not informed as to the time at which the atrophy appears after the beginning of this gradual regression, though it would be supposed that it follows at an early date after the age of 50 years. Are we then to draw the (legitimate) conclusion that a man who marries at or after the age of 50 years may not reasonably expect children? This conclusion is certainly legitimate from the premise; but is as certainly untrue. That the inference drawn does follow is shown by the second conclusion, that "this atrophy is characterized by a marked pericanicular sclerosis and by the disappearance of the epithelial element;" and by the third conclusion.

It is impossible to believe that M. Arthand could have examined the organs of healthy men; or if he did we can only conclude that M. Arthand's countrymen decay at an earlier age than men of other nations. For an atrophied testicle, and one characterized by sclerosis and loss of epithelial element, certainly cannot be of much if of any service. Furthermore, the loss of virile power must begin before the age of 50 years, since we are told that "the sclerosis and its accessory phenomena may be regarded as the result of vascular lesions and of the insufficient nutrition of the seminal glands in *advanced age*." If this be true the decay must begin some time before the age of 50 years, as it cannot be supposed that a previously healthy organ can take on lesions, which are the rule and not the exception, which will cause its decay in a few months. These vascular lesions and insufficient nutrition of the seminal glands (by which term we are to understand *testicles*) occur in *advanced age*, we are told, and cause the sclerosis and atrophy which appear at about the age of 50 years. We cannot believe that M. Arthand's countrymen are in *advanced* age, or in a state of senile decay at, and even before, the age of 50 years; and certainly men of other nations are not.

THE CURATIVE POWERS OF ERYSIPELAS.

Fehleisen, we believe, was the first to inoculate erysipelas for the purpose of curing certain forms of skin disease, and since that time various facts have been adduced to show that this affection has an undoubtedly curative effect on certain tumors and affections of the skin.

BIEDERT has recently (*Deutsche Medizinal Zeitung*, No. 5, 1886) described a case of sarcomatous tumor of the mouth, in the case of a little girl, for which he was not permitted to operate, and which was successfully removed by the inoculation of erysipelas. The sarcoma occupied the left tonsil, and was about as large as a hen's egg when he first saw it. Twenty months later the tumor had invaded the whole posterior portion of the mouth and the anterior portion of the throat, the anterior portion of the floor of the mouth, principally the left half of the tongue, and protruded between the lips as an ulcerated mass. It had also grown into the nasal fossæ and attacked the skeleton of the face, and on the right side the eye was partly closed by a mass of exuberant tissue. On account of the fœtid discharge from the mass great care was taken to place the patient away from the others; and it seems that so much care was used that she was placed in a bed which had been a short time previously used by a patient with erysipelas. Three days afterwards she was attacked with this affection, more especially on the exposed ulcerated portion of the face. Though the temperature rose to a great height, Biedert did not interfere in the least with the intercurent affection, hoping that it would have a salutary influence on the sarcomatous tumor. In the six days of the erysipelatous fever the sarcomatous mass melted to an astonishing extent. Suffice it to say that on the sixteenth day after the development of the erysipelas the tumor had entirely disappeared except a nodule on the tongue, and one in the cicatrix at the ala of the nose, which were removed. It may be added that tracheotomy was performed when she was admitted to the hospital.

WHAT CONSTITUTES A CONSULTATION.

"TO THE EDITOR OF THE JOURNAL: I submit a hypothetical case and several questions for your consideration. As a favor please answer.

"A man requested a regular physician to visit his wife, who was supposed to be in a critical condition, having been delivered a few hours previously (same day) under the care of a homœpathic physician. The physician responded to the call, examined the patient, and gleaned the history of the case from friends, and the homœpathic physician who was present. A prescription (not discussed) was left by the regular physician who retired and saw the patient no more.

"1. Was this a consultation in the true meaning of the term?

"2. Did the physician violate the code, especially Article IV, Section 1? PHYSICIAN."

July 10, 1886.

Answer:—Regarding the hypothetical statement above as strictly correct, we answer both questions in the negative. To visit a patient represented to be in great distress or critically sick, examine the patient and get whatever information can be obtained from those present, even if one of them happens to be a physician, either regular or irregular, and then proceed to administer whatever relief can be afforded, whether it be to introduce a catheter, apply the obstetric forceps, or write a prescription and give the necessary directions for its use to the patient or those nursing him or her, constitutes no more a *consultation* with the physician present in the room than with the nurse or any other party present.

If, however, the physician thus called in a presumed emergency, not only examines the patient and gets all the needed information he can, but also then turns to the doctor present and enters into discussion with him concerning the nature of the case, and its proper treatment, it constitutes an actual consultation with him. See JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. IV, page 537.

THE NEW WORK ON RENAL DISEASES, by Dr. Purdy, mentioned in a recent editorial in THE JOURNAL, is published by Lea Brothers & Co., Philadelphia, and can probably be found in the medical book-stores generally.

EPIDEMIC CHOLERA continues to prevail in some parts of Italy, and is extending moderately to the north. But the summer is already so far advanced that there is very little danger of it invading Germany, France or the British Isles, and still less of its reaching this country the present year.

SOCIETY PROCEEDINGS.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Semi-Annual Conversational Meeting, April 22, 1886.

THE VICE-PRESIDENT, JAMES TYSON, M.D., IN THE CHAIR.

W. E. HUGHES, M.D., RECORDER.

DR. GEORGE A. PIERSOL read by request a paper on

MEDICAL PHOTOGRAPHY.

The character of photographical work which the medical man may probably desire to undertake may be divided into three groups: 1, photographing specimens; 2, photographing patients; 3, photographing microscopical specimens; to which, possibly, a fourth should be added—making lantern slides or enlargements for the purpose of illustrating lectures. As to outfit, all of these requirements must be borne in mind. At the present time, possibly the best equipment for medical work would be one of Walmsley's modified copying cameras, as manufactured by the American Optical Company, taking a $4\frac{1}{4} \times 5\frac{1}{2}$ plate fitted with a first-class lens. Regarding the latter, those desiring the best might limit their choice with advantage to the lenses made by Ross, Dallmeyer or Beck. Personal experience with the Beck lens warrants a most favorable recommendation, as its superior qualities adapt it admirably for work requiring fine definition with great focal depth. As a matter of economy the excellent lenses of Daclot might be substituted for the higher priced English glasses. As much less expensive the "Waterbury" outfit (camera, lens and tripod costing but $14) is worthy to be considered. The addition, however, of a light wooden extension is imperative to obtain sufficient length of bellows to reproduce specimens of a normal size—a matter often desirable. A lens adapted for medical work would be a rapid rectilinear combination of about $8\frac{1}{2}$ or 9-inch equivalent focus—a shorter focus lens possessing insufficient focal depth. In addition to the camera and lens, a simple dark room outfit, embracing non-actinic lantern, three trays, graduate, dust brush, light-proof box for opened packages of plates, and a few tubes, is necessary. Proper illumination is essential for satisfactory results. An evenly distributed top light is most desirable. This can be obtained readily from a skylight; such a convenience, however, is frequently wanting. An excellent substitute may be readily had by running the apparatus to the open air and stretching over all a piece of muslin, thus providing a mellow, evenly distributed top-light admirably adapted for photographing specimens. In focussing the use of a focussing glass is advantageous. Focus without the diaphragm on a point lying midway between the extremes of the planes of the specimen; afterwards put in the smallest stop (say No. 128 F., = 45.2 English scale). The small stop necessitates a rapid plate unless the exposure is unduly prolonged. A fast plate and small stop, when properly employed, yield pictures with the best possible definition and great focal depth, qualities very essential to satisfactory representations of specimens.

In order to insure acceptable results a correct exposure should always be attempted. The length of exposure depends upon many conditions—among others, actinic power of the light, this being modified by sunshine or clouds, by time of day, by season of the year; color of the specimen—a tissue deeply dyed with blood requiring much greater exposure than the alcohol bleached organ; character of the sun; size of diaphragm; sensitiveness of the plate; strength of the developer. Since these all modify the duration of any individual exposure, the oft heard comparison as to the bare numbers of seconds given upon various negatives are of very little importance. Each worker must determine for his own conditions

the exact number of seconds required on the ordinary specimens, and with this as a basis meet changing conditions as the occasion demands. While there are many excellent formulæ, the following developer has always answered admirably, and with it, by slight modifications, all kinds of work may be satisfactorily performed:

No. 1.

℞. Pyrogallic acid (Schering's)..... 1 oz.
Sodium sulphite..... 6 oz.
Water..... 48 f℥.

No. 2.

℞. Sodium carbonate..... 4 oz.
Water..... 48 f℥.

No. 3.

℞. Sodium bromide..... 1 ℥.
Water..... 1 ℥.

Use equal parts of No. 1 and No. 2 with 3 to 5 drops of No. 3 as a normal developer, the entire bulk of the developer being say 3 f℥. Remember No. 2 accelerates, while No. 3 retards development; No. 1 giving density. A plate is fully developed when the deep shadows show some detail and when the cardinal outlines of the picture show on the back of the plate with reflected light. The most usual failures result from over-exposure and under-development. When a plate blackens rapidly, without the requisite amount of contrast between the high lights and deep shadows being at first present, we may strongly suspect over-exposure. Pour off the developer, flood with water, and then proceed once more with a developer to which say 20 or 30 drops of No. 3 have been added.

The remedy for under-development is evident. Strongly to be emphasized—select a good brand of plate, choose a reliable developer, and only change when there exists a strong reason for so doing; by this plan alone can the peculiarities and valuable qualities of any plate be learned. In addition to these fixed conditions, by at first employing but one lens and a single diaphragm, the path of the tyro is greatly smoothed. In photographing a patient, if possible a skylight should be used; when, however, none exists we can succeed fairly in any well lighted room, preferably one having two side windows. Opposite to window No. 1, and about four feet removed, we place our subject almost parallel, facing the second window. The lower half of window No. 1 is covered with muslin, while over the upper half is partly drawn the shade. Window No. 2 (further removed from the patient, but toward which he looks) is unobstructed. The camera is placed somewhere near the second window. Some simple background should be improvised and the darker side of the subject should be lighted up by a reflector of white muslin. Since the actinic power of light is immensely reduced within doors, our exposure would be unduly prolonged if we used the smaller diaphragms; we are therefore usually compelled to use the larger ones—Nos. 8 or 16. Photographing microscopical specimens requires a camera with a long bellows, 24 to 26 inches. This may be had by adapting to the front of an ordinary camera an extension, which may be readily constructed of wood, cardboard or tin. The inner surface of the entire track of the light from the objective shonld be lined with black paper with matt surface. Any microscope admitting of a horizontally placed tube, with a good stage and centering substage, may be employed. Likewise any objective possessing good definition and flat field may be used. The eye piece is best removed, the camera and microscope being united by simply inserting the draw tube into the extension of the camera and wrapping the joint with a few pieces of some black fabric.

Illumination is very important. Four sources may be considered—lamp, calcium, electric and sunlight. Calcium and the electric lights, while quite satisfactory by way of experiment, are practically debarred by the expense and inconvenience attending their use. The incandescent electric light, at the present time, offers little advantage over good lamplight, and is far inferior to sunlight. It may be stated once for all, that sunlight properly employed is the best possible illuminator for photomicrography. As it requires some care in its employment, and, above all, the devotion of the busiest hours of the day, we may inquire what can really be accomplished by lamplight. Mature consideration and considerable experience justify us in saying that with care and proper manipulation really good photographs may be made with powers up to the $\frac{1}{6}$; of course very much higher lenses may be employed—even the $\frac{1}{15}$ and $\frac{1}{25}$—but thoroughly satisfactory lamplight work with lenses approximating 1,000 diam. is seldom if ever seen. One thing seems demonstrated beyond question: that with any power it is almost impossible to obtain the soft but brilliant micronegative, full of detail and vigor, that sunlight is capable of yielding. For lamp light a lamp with a single moderately broad wick should be employed, the edge of the flame being turned toward the object. For very low powers, 3—1½ inch, no condensing lens is necessary. With higher powers, the interposition of a 4-inch focus plano-convex lens is advantageous, and with still higher lenses (say from the $\frac{2}{3}$ up) some form of substage condenser in addition is almost imperative. After many experiments with various forms, a "B" eye-piece as a condenser seems to yield the best results, giving a powerful and evenly distributed illumination. Accurate centering and even distribution are of the utmost importance. First centre the substage condenser. Avoid "pushing" the illumination, as when the condenser is racked too high the margin of the field is destroyed. Experience teaches the advisability of using a slow "clean working" plate (say Carbutt's "B,") in preference to the very rapid brands. A mirror placed at the end of the work table opposite the ground glass of the camera, is of great assistance in adjusting illumination; a small hand glass is also convenient to reflect the picture when hunting fields. The most important, as well as difficult, manipulation is focussing. With a short "pull" there are no special requirements, but when a long camera is extended, removing ground glass to three or four feet, some arrangement of moving adjustment is necessary. The simple arrangement with cord and weights, which we devised eight years ago, and which has of late become extensively used, we still

recommend as meeting all possible requirements. It has been put to the severest tests with powers of over 3,000 diam., and never has been found wanting either in delicacy or accuracy. A modification may be applied to the coarse adjustment.

A focussing glass is indispensable; the point of most accurate focus is where the image seems to melt into the ground glass. Preparations must be well differentiated and thin, possessing sufficient contrast and actinic opacity. In certain cases, by using glass of a complementary color to the stain, excellent results are obtained. While lamplight suffices for low powers, yet for the high powers or for difficult work, sunlight by all odds is to be preferred. By arranging a simple mirror to swing laterally and vertically, we can substitute the necessity for a heliostat. Light from this mirror passes through a plano-convex lens of 8 inches focus, through a cell of ammonia and sulphate of copper, to the substage condenser. Here, again, accurate centering and evenly distributed illumination are absolutely essential for good results. To those aspiring to the best results, especially with difficult subjects and high powers, a trial of sunlight is strongly urged, as by this illumination alone are many of the capabilities of photomicrography rendered possible.

Succeeding his address the lecturer exhibited on the screen about fifty examples of various kinds of work. Nearly half of these were photographs of pathological specimens; the remainder were photomicrographs of histological and pathological preparations, taken with objectives giving from the lowest to the highest amplifications, among which an admirable photograph of the bacillus tuberculosis attracted much attention.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, May 6, 1886.

THE PRESIDENT, B. F. BAER, M.D., IN THE CHAIR.

DR. HOWARD A. KELLY read a paper on

ASEPSIS NOT ANTISEPSIS; A PLEA FOR PRINCIPLES, NOT PARAPHERNALIA, IN LAPAROTOMY.

Medicine, like other branches of science, has been most retarded in its growth by the accumulation of all sorts of useless details. Some of these incrustations still clog the advance of abdominal surgery, and will be given up with a notable diminution in the general percentage of mortality. I refer to the use of carbolic acid and mercuric solutions at the operating table, and to the continued use of any elaborate abdominal dressing.

The use of antiseptics in the patient's belly is full of danger and inconsistencies, for the following reasons: 1st. If used in strength sufficient to certainly prevent sepsis, the patient is very often killed along with the germs. I have myself seen death from carbolic acid poisoning. The *American Practitioner*, November, 1881 (p. 261), quoted by Dr. Goodell: "The first four cases done in the theatre at the beginning of last session had hæmorrhage from the kidneys and two of them died. I never had anything like that before. It was purely carbolic acid poisoning; of that I have no coubt whatever." Thomas Keith speaks of several cases in his own practice, and references might be indefinitely multiplied. Regarding the use of bichloride solution, it is sufficient to say that its use has been very much curtailed in all maternity hospitals even as a vaginal wash. The line is here a very broad one, for the limit appears only to depend upon the most variable of all factors, the individual susceptibility.

2d. It is the great tendency of all operators, and in particular their assistants, to forget the principle involved, and pin their faith to the accidental means of establishing it. This can be seen abundantly illustrated in almost any hospital in the land, where a clean napkin worked around the joints and grooves of the instruments in use, or carried under the nails of the operator's fingers, will exhibit sad evidences of soil. Then, too, the actual conduct of the operator is often modified by the false sense of security begotten by the incomplete use of antisepsis. I saw this well illustrated by a surgeon of more than local repute. The case was a herniotomy, in which a large femoral sac was opened. The spray was throwing out a dense cloud, instruments and sponges were immersed in a two per cent. solution of carbolic acid, and elaborate dressings were ready. A coil of intestine protruded from the wound for several inches, and it lay, first, on the old hospital blanket below, and then, in the effort to reach the ring, was turned upon the night-gown above. The antisepsis was here made a farce by these and other glaring inconsistencies.

If germicides must be used at all, let it be before the operation, and in strength sufficient to neutralize any sepsis about instruments, sponges, etc. Then let the operator go to work with clean instruments, clean sponges and clean hands, and he will need no antiseptic, and the patient's belly will no longer be a battle-field where germs and solutions fight, often with such direful results to the host. It is my belief that it will not be long before the day of solutions will be past, and that in the future the successful surgeon will go to his work with pure water or dry pans for his instruments, and fluid enough to cleanse sponges. My own practice has been to use hydrant water boiled for an hour and allowed to stand, or better still, distilled water, as used by Prof. Schroeder, and independently suggested and used by my friend, Dr. Joseph Price. I do not believe that reservoir water, dirty as it often is, ever contains any of the specific matter productive of septicæmia; but the process of boiling and using only the supernatural liquid makes it perfectly harmless.

Another fallacy discarded by some of the greatest operators but perpetuated by many, is the transference of the use of the elaborate Listerian dressings of general surgery to the abdominal wound. These dressings, so manifold and multiform, are clearly intended to prevent sepsis from penetrating the now closed abdominal wound. This is an accident which fortunately never occurs in the intra-peritoneal method. The rapid agglutination of peritoneal surfaces effectively closes the sac. A sterile dry pow-

der will absorb the slight serous discharge at the edge of the wound and suture exits, and above this some absorbent cotton and a firm bandage is all that is required.

While the danger of infection of the peritoneum through the closed wound is nominal, that of an infection of the belly wall through stitch holes is very great, and this is best prevented by the dressing recommended by Keith, of carbolic acid and glycerine, one to eight parts.

With the mind thus freed from the notion that these solutions and dressings are accomplishing anything—from two such dangerous fallacies—operators at large will then work with a living consciousness of the real conditions of success, and they will then be on the alert from the beginning of the operation to its close, keeping within the mental horizon an exact knowledge of everything coming into contact with the patient's belly.

The expression of my convictions and practice will be of value in so far as they are in accord with the following letters upon the subject by the two greatest abdominal surgeons in the world, Lawson Tait and Thomas Keith. Lawson Tait, in a letter dated March 15, 1886, to the writer, says: "I still use tap water, and nothing else; it is never boiled. My instruments are prepared by being washed in soap and water merely. I use no elaborate dressings for the wound, never using anything at all except absorbent cotton wool. Yours very truly,

LAWSON TAIT."

From a communication from Thomas Keith, of Edinburgh, written March 18, 1886, I make the following extract: "The secret in abdominal surgery, the secret in all surgery, consists in carrying out the antiseptic principle. You may do this in a simple way or you may do it in a complicated way. All instruments, needles, forceps, sponges, etc., everything about the wound, must be disinfected. A weak carbolic solution applied to the wound can do no good, nor harm. You may safely use hot water. My instruments, after an operation, are scrubbed with a nail brush, especially the forceps points. This is repeated before the next operation with a five per cent. solution of carbolic acid. The greatest risk is that we put in septic matter on our hands, instruments, and sponges. Sepsis may come from the wound, but it rarely ever penetrates inside. I use a simple dressing of gauze, eight or ten folds, soaked in one to eight carbolic acid and glycerine, extending two or three inches or so beyond the line of incision on all sides. Over this some ordinary cotton wool, a flannel bandage, and nothing else. Use this and you will never use anything else. And don't look at it for a week or ten days. You ought, for the patient's comfort, to put on an antiseptic dressing of some kind. You will probably often have suppuration with stitches if you do not. Yours sincerely,

THOMAS KEITH."

DR. MONTGOMERY felt great interest in Dr. Kelly's remarks, reinforced as they were by the letters from Tait and Keith. The antiseptic method of treatment has done a great work for surgery, and the successive steps of Listerism and cleanliness have brought it up to the comparative certainty of result now attainable. We can now eliminate almost entirely the antiseptic agents, carbolic acid, mercuric chloride, thymol, etc., and can do as well by the most rigid attention to cleanliness in all details of hands, instruments, sponges, and the skin of the patient. Some years ago he felt gratified that, in a patient upon whom he operated before a class at the Philadelphia Hospital, with Listerism and the carbolic spray, the temperature did not rise above 102°. Now, in his private hospital, with rigid attention to cleanliness and thorough washing of the peritoneal cavity with hot water, the highest temperature will be below 100°. After operations involving the opening of the peritoneal cavity, if there has been any opportunity for the escape into it of blood, pus, or cyst contents, he washes it out thoroughly with hot water. After closing the wound he closes it with sublimated gauze and absorbent cotton, and secures this with strips of plaster and a bandage. This dressing remains a week without need of disturbance. If gut sutures, or silk rendered aseptic by a coating of wax with carbolic or salicylic acid, be used, there will be no trouble about suture abscesses. In a recent case, in which the abdominal walls were two inches thick from adipose deposits, these precautions were observed and there was not the slightest suture trouble. He does not now consider the spray of any value; because we cannot use carbolic acid solutions strong enough to certainly destroy germs without poisoning the patient, and the spray only washes the germs down into the wound.

DR. CHARLES HERMAN THOMAS remarked that the experiments of Dr. Sternberg, of the Johns Hopkins University, a careful and conscientious observer, have developed the fact that some of the antiseptic solutions in common use, three per cent. carbolic acid, for instance, actually stimulated the growth of bacteria. Perfect cleanliness is the essential point, the foundation of surgical success. He has seen Dr. Kelly operate without disinfectants, his instruments being placed in a dry pan, and his results prove the truth of the assertions he has made this evening.

DR. M. PRICE had experienced great difficulty in his attempts to secure absolute cleanliness. He has seen half a dozen unclean hands introduced into a peritoneal cavity during operation, simply from curiosity; sponges picked up from the floor, napkins from a dusty window-sill, instruments from a soiled blanket, and each used on peritoneal or absorbent surfaces; sponges that have been filled with pus used again in the peritoneal cavity, and in general, extreme thoughtlessness in the little details of cleanliness that compelled the full power of antiseptics to brirg good results. He has had good results in pyosalpinx even where purulent cysts have burst in the abdominal cavity, but he allows only the operator's hands to enter that cavity, and practices the most thorough washing out with clean water. He has been burned by simply holding a carbolized ligature in his mouth for a few minutes, and feels sure that the retention of a number of such ligatures in the abdomen would be quite likely to give rise to trouble.

DR. CHAS. MEIGS WILSON said that cleanliness, by

whatever means obtained, is the great element of success in abdominal surgery. As absolute cleanliness can best be obtained by the use of agents possessing germicitic and anti-putrefactive properties in the preparation of the atmosphere, the operator's person, the instruments, sponges and dressings, it seems to be the part of wisdom to employ such agents up to the time of and even during the operation. With a perfectly clean room and furniture, clean air, clean instruments, and clean hands, possibly no antiseptic agent would be needed. But unfortunately, such conditions do not universally or generally exist, and to attain them we must resort to the use of some efficient antiseptic. Care should be taken to employ some agent which is efficient and at the same time non-poisonous. In English and Continental hospitals, where excessive antiseptic precautions are employed, the success attained compared with the previous mortality rate proves unquestionably the great value of such precautions. The united testimony of experienced American operators as to the value of antiseptic precautions should not be set aside. I believe that all instruments should be submitted to the purifying influence of dry or moist heat. That the towels, sponges and dressings should be left for twenty-four hours in a boiling hot solution of mercuric chloride 1 to 2000, and that the silkworm-gut or fine wire sutures and ligatures should be kept in a very weak solution of carbolized oil. To my mind the terms antiseptic and aseptic are synonymous. My own experience has taught me that the best and least dangerous antiseptic agents are those which prevent or retard putrefactive changes, rather than the more dangerous class of agents which possess decided germicitic powers.

DR. PARISH said that antiseptics are not intended to take the place of cleanliness. The greater the care bestowed on cleanliness in all details the less will be the need for antiseptics. Boiled water, filtered, is a good washing material; patient hands and instruments must be clean to insure good results. Absorbent lint, wet at time of using with a 1 to 2000 mercuric chloride solution is a good external dressing. Dr. Parish agreed with most of Dr. Kelly's statements, but he believes in the value of antiseptic vaginal injections after labor in hospitals. The maternity wards of the Philadelphia Hospital showed a large number of deaths, varying from three to ten per cent. for many years prior to 1885; but last year, in 247 cases of labor there were but two deaths. One of these was after Cæsarean section in a patient who had been in labor nearly three days before she was brought into the hospital. The other fatal case was in an idiot, and was largely from other causes than the labor, which was not at fault. These good results are due to the use of mercuric chloride injections principally, although we have now new wards and opportunity for frequent change of nurses where advisable. In a case of septicæmia following adherent placenta, the patient seemed almost moribund, but hot uterine injections of mercuric chloride, 1 to 4000, stimulated her and lead to recovery. Water is boiled to destroy possible germs, and filtered to get rid of various impurities not held in solution.

DR. M. PRICE thought the heat of the injection used by Dr. Parish was the most important element in stimulating the patient; but the mercuric chloride would do no harm, and the fact that improvement commenced and continued from that time is the important point. The reaction against the use of antiseptics should not be allowed to go too far. They have done great good and can not be discarded.

DR. SOPER, formerly of the Rotunda, Dublin, upon invitation from the President, remarked that this was a very mixed question. That neither cleanliness nor antiseptics could be dispensed with. He has seen cases do well under all conditions without antiseptic precautions, and if the solutions are dangerous we must be cautious in their use. He believes thoroughly in cleanliness, and would use antiseptics when he thought them needed. It does not do to run into extremes.

DR. KELLY replied, in closing the discussion, that he was both surprised and gratified that so many members of the Society had expressed their approval of his paper. In two or three instances, however, he had been grievously misunderstood. He believes it to be the great glory and the crowning triumph of *antisepsis* to have discovered *asepsis*. He had nothing whatever in common with those surgeons who claim that antiseptics have done nothing. The peritoneum is a vast, exquisitely sensitive "culture" sac. In the old time chance decided whether the uncleansed hand of the surgeon carried in suitable germs to multiply in the medium, and the chances were greatly against the patient. Now the use of antiseptics accidentally involves rinsings and cleansings which make the surgeon a clean man in spite of himself; and the patient generally escapes. In a more advanced position, and the one in which the surgeon is living up to a *principle*, the utmost precautions are taken by a preliminary use of antiseptics in sufficient strength, and he goes to his operation needing no germicides.

Let the battle-field be without the patient's belly and the germicide will there be sure of the victory every time. Statistics from foreign nationalities as quoted, instead of proving against, are one of the strongest arguments for, this position, for there the use of the germ-destroying agent is wholly *without* the patient's body.

(*To be concluded.*)

CHICAGO GYNÆCOLOGICAL SOCIETY.

Forty-Sixth Regular Meeting, Friday Evening, April 23, 1886.

THE PRESIDENT, DANIEL T. NELSON, M.D., IN THE CHAIR.

W. W. JAGGARD, M.D., EDITOR.

DR. CHARLES CALDWELL read a paper entitled,

REPORT OF A CASE OF HERNIA OF THE UMBILICAL CORD.

I was called August 10, 1885, at 6 P.M., to attend Mrs. C., who was in labor with her ninth child. I made an examination and found a vertex presenta-

tion, first position; os well dilated but no bag of waters had formed.

The first stage of labor was completed at 7 P.M., and the second an hour later. The child, a female, was quite large with very broad shoulders, which were difficult to deliver. As soon as the child was expelled, I discovered she had a large umbilical hernia. I ligatured the cord and gave the child to the nurse, who removed it to another room, that the mother might not be alarmed at sight of the tumor.

The placenta was expelled by Credé's method and the uterus contracted firmly under pressure of the left hand.

After the binder was applied and the mother made comfortable, I examined the tumor more carefully. It was as large as a small orange and of similar shape. The circumference in the largest place—the centre—was about ten inches. The diameter of the orifice or abdominal opening, two inches. The sac was translucent and the viscera—intestines—could be distinctly seen when the child cried and forced them out. The umbilical vessels were on the left side of the sac. The skin was projected from the abdomen on to the side of the sac at its base about half an inch.

Diagnosis.—Hernia of the umbilical cord.

Pathology.—Ectopia of some or all of the abdominal viscera at the point of insertion of the umbilical cord, is usually due to an arrest of development of the abdominal parietes, and failure of the intestines originally projecting into the vitelline duct to return into the abdominal cavity. Simpson thinks it may sometimes be traced to peritonitis. Cleft abdominal walls, similar arrest of development to that of cleft sternum, may exist in the muscular structure of the front of the abdomen, which may expose the whole contents of the abdomen, or the central line of the abdomen may be weak from deficiency of muscular structure.

If the orifice is very small, it can be treated successfully by a simple compress and adhesive straps. But if large, nothing except a plastic operation is indicated.

The coverings of the hernial sac are, from without inwards (*a*) amnion, (*b*) peritoneum.

Treatment.—After examining the sac thoroughly I was convinced that nothing but surgical interference could save the child's life.

I called our President and Dr. Jaggard by telephone, but both were too busy to assist me that night. They both recommended a cork compress held in position by adhesive strips, evidently thinking it an ordinary case of umbilical hernia. I decided not to operate until the next day, and enveloped the sac with absorbent cotton, retaining it in place with a loose band.

The next afternoon, Drs. Dudley and Jaggard met me in consultation. After examining the little patient, they decided with me, that nothing but surgical interference would give her any chance of life, and kindly assisted me in the operation.

It was decided not to give an anæsthetic. Dr. Jaggard seizing the sac, gently forced its contents, the viscera, back into the abdominal cavity and I ligatured it as close to the abdomen as possible, but did not draw the ligature perfectly tight. At the suggestion of Dr. Dudley the sac was now opened, to be sure no portion or loop of the bowel was confined by the ligature.

The peritoneum being opened, the index finger was passed into the abdominal cavity to hold back the bowel and protect it from the points of the hare-lip pins, which were passed at right angles to each other through the narrow piece of skin at the base of the sac. Two more ligatures, carbolized silk, were applied beneath the pins and were drawn tight enough to close the opening. The outer layer of the sac was trimmed off, leaving a stump one and one-half inches long. Dr. Dudley passed a gathering suture round the stump, sealing it more tightly. This completed the operation; after which the stump was dressed with iodoform—a narrow strip of carbolized gauze passed beneath the pins—several layers of absorbent cotton and a roller bandage. The child was restless that night, crying several times, but slept well the next day. I dressed the stump every day, reapplying a similar dressing. The bowels moved naturally until the 16th, when I discovered some fæcal matter on the dressing as I removed it.

On the 17th, all the fæces passed through the fistulous opening. The members of the family were very much alarmed and wished me to close the opening at once. I assured them that nature would close it without any further surgical interference. I called on Dr. C. T. Parkes for his advice. After hearing the history of the case he said it would undoubtedly close by granulation in a few days.

For four days all the fæces passed by the fistulous opening, but on the fifth there was a little stain on the diaper. On the sixth more, and on the seventh all the fæces passed *per rectum.*

The family were happy once more, for the fistula had closed. There were no symptoms of peritonitis at any time. Neither vomiting, tympanites nor pain. The patient did not cry more than babies generally do, but nursed and slept nicely, requiring no unusual care.

The bowel, at point of perforation, was held firmly bound to the abdominal walls by lymph, which was thrown out.

From this time the wound healed very rapidly. The end of the stump sloughed, leaving it quite short. The small intestine was probably the one perforated, for there was no odor to the discharges.

What caused the rupture of the bowel to take place I am unable to say. Probably, either a portion of the bowel was caught, and became strangulated by the ligature, or it was punctured by a pin, as that instrument was inserted.

Dr. Dudley says the surgical operation was certainly a laparotomy, for the abdominal cavity was opened and the index finger introduced.

DR. DE LASKIE MILLER said he had seen numerous cases of hernia, but thought this specimen was possibly more extreme than he had seen.

THE PRESIDENT asked Dr. Miller in how large a hernia he would deem operative procedure, of a plastic nature, necessary.

DR. MILLER did not think it possible to state, by

actual measurement; so much depends upon the condition of the tissues surrounding the opening, that the absolute diameter of the opening would not be the governing principle. If the borders of the opening are of considerable thickness and the tissues well developed, it would be possible to reduce and probably cure a hernia independently of any cutting operation. He inferred that in the case described in the paper, there was a deficiency of all the tissues except the peritoneum and the amnion, the skin projecting upon the sac one-half inch around the opening. He thought there was another explanation possible in this case, viz., that the duct leading from the umbilical vesicle remained or become patulous and the fæcal matter passed out through that; for the duct can be seen in the cord, even at delivery, in some cases. He inquired as to the cause of the arrest of development of the abdominal parietes in such a case.

DR. EDWARD WARREN SAWYER thought it not a very unusual thing to find a prolongation of the intestine into the cord. He once came very near tying the cord including a loop of intestine, so near that he had since observed the rule to always satisfy himself, by careful manipulation of the cord, that it contained no loop of intestine, and this routine practice had revealed the fact that very often a suspicious enlargement of the cord is found, sometimes extending three-fourths of an inch above the level of the abdominal wall, and the intestine, or portion of the omentum, is not infrequently projected into this cul de sac. He thought in the majority of cases nature would take care of the condition without any attention from the attendant. He had never seen so large a hernia as that described by Dr. Caldwell, and did not understand why it should have assumed a spherical shape; he could understand how it might be pyriform or sausage-shaped, and extend an inch or two into the cord, but how the cord could suddenly dilate and form a large globe, and this globe be followed with the contents of the abdomen, it was difficult to comprehend.

Dr. Sawyer inquired what there was about this case that enabled the physicians to decide so quickly that an operation must be resorted to in order to save the child's life. To him an operation would have been a second consideration. Dr. Jaggard evidently reduced the hernia without difficulty, and having reduced it, it seemed to Dr. Sawyer that a well applied bandage would have secured it. The operation was brilliant and creditable, but he thought an operation should have been considered, after the attendants had failed utterly to secure the hernia within the cavity by a well applied bandage.

It was stated in reply to questions that the child presented no symptoms; the hernia was reduced by Dr. Jaggard; the tumor about the size and shape of an orange; the operation was performed the day after birth; there was no evidence of strangulation of the gut.

Dr. Sawyer said that Dr. Caldwell had assured him that he was certain that in passing the hair-lip pins no part of the intestine was included, and the finger was introduced to push everything beyond the reach of the pin. Dr. Sawyer thought, however, that the centrifugal pressure must have been considerable, and the contact quite severe. He thought it strange that none of the fæcal matter escaped into the peritoneal cavity, although there were adhesions between the intestine and abdominal parietes.

THE PRESIDENT: Of course every case must be decided on its merits, but might we not hope for the closure of the opening of an inch and a half in diameter, provided the tissues are well developed around it, without a cutting operation? It would seem possible to close as large an opening as in the case under discussion by simple adhesive strips. He had seen one case that reminded him of this; the opening was not as large, it did not exceed three-fourths of an inch in diameter, and the length of the sac was much longer than the opening. Into this sac there was projected a solid body. As the child afterward died, he found is was the *lobus Spigelii* of the liver. It was so conical, or heart-shaped, that the anatomy could not be made out until after death. The instruction to him in that case was the importance of not including any of the abdominal tissues by the ligature that might be passed around. He was careful to pass the ligature around the umbilical cord so as not to include the sac, but it might readily have been passed close to the abdomen and made to include the solid tissue, which, as he afterwards found, was a portion of the liver. The child died, not from the hernia, but from some want of development which he was unable to find out, no careful post mortem examination being allowed, but he believed there was lack of fœtal development necessary to life. The child was fairly well developed, and seemed as if it should have lived, so far as this slight defect was concerned.

The PRESIDENT asked if any one could suggest the reason for the fæcal fistula. It seemed to him that in this case it was the result of inflammation caused either by pressure against the pins or the ligature; if the intestinal wall had been punctured by the pins, the physician would have seen evidence of it earlier.

DR. J. H. ETHERIDGE inquired whether this was not the youngest laparotomy on record. He wished to know if it would not be possible to crowd back the viscera and then hold them in place with adhesive strips.

DR. T. D. FITCH said that he had not had experience with congenital hernia at birth, but had seen it occur within twenty-four hours afterward, and had successfully closed an opening an inch or an inch and a quarter in diameter by the ordinary method, viz.: compress and bandage.

Dr. Fitch had had very peculiar success in the treatment of infantile umbilical hernia by the ordinary means, and he should hesitate very long about an operation until he had tried all the ordinary means. His method of treatment differed somewhat from the ordinary treatment, however, in the adoption of an elastic web bandage instead of the ordinary bandage or adhesive plaster, and he thought it far superior to an inelastic bandage, as it gave the child room for an accumulation of intestinal gases, which very often become painful when a fixed bandage is placed around

the abdomen. He first applied a hand compress, like a button-hole—(plano-convex)—to cover the opening. This should be large enough to extend three-eighths of an inch beyond the margin of the opening, and should be covered with one or two thicknesses of fine soft muslin. After returning the protruded substance *perfectly*, the compress should be fixed in position by short adhesive strips, then apply the elastic webbing around the body of the child tolerably tight, and let each turn of the bandage lap the previous one half its width, making a sufficient number of turns to cover six or eight inches of the abdominal surface vertically. He would leave this on, undisturbed, unless the child became restless, or exhibited some indication of injury, for a month or longer before removing it. He had never found that the skin suffered from the confinement of the perspiration.

Another advantage was that the elastic webbing being rough and the lips of the bandage holding each other, it always stayed in place, and held the button firmly and so secured the opening against any possibility of protrusion. He had used this method successfully for about thirty years. He had a case at Waukegan, which occurred twenty-four hours after birth; did not attend the mother at the birth, but was called to treat the hernia which was reducible, and would gurgle in and out at almost every respiration, bulging out as large as an English walnut. He visited the child only once, and told the parents to remove the bandage at the end of four weeks, when the opening was found entirely closed. The child is now 9 or 10 years old, perfectly healthy and always has been.

Dr. Charles Caldwell: The Fellows of the Society have evidently misunderstood the nature of the case described in the paper. I am sorry that such obscure and confused conceptions have been conveyed. The case was one of hernia of the umbilical cord, consisting in "the escape from the abdomen, at the point of insertion of the cord," of some of the fœtal abdominal viscera, and was due either "to arrested embryonic development, preventing the complete closure of the abdominal cavity, or failure of the fœtal intestines, originally situated outside the abdomen to enter the same" (Lusk). The remarks of most of the Fellows are accordingly irrelevant.

As no one who witnessed the operation was present at the discussion of my paper, several questions were unanswered.

Dr. Sawyer wished to know why we decided so quickly that surgical interference was necessary to save the child's life?

The consultation was held about twenty hours after the birth of the child, and at that time the outer layer of the sac, the amnion, was dark and gangrenous in several spots. Its nutrition was cut off when the cord with its umbilical vessels was ligatured, and it would have sloughed off in a few days, leaving the viscera covered by the peritoneum only. We were of the opinion that such a condition as then existed would be followed by general peritonitis and death without some surgical operation.

Dr. Byford wished to know the literature of the subject. He had been able to find but one case similar to his. Thomas Bryant, in the last edition of his "Surgery," mentions the only case he ever saw and his treatment. In June, 1876, a child, one day old, was brought to him with hernia of the cord. The sac was translucent, the size of a small egg, and contained the cæcum and vermiform appendix. He pressed back the bowel with the thumb and forefinger, stitched up the cord at the umbilical orifice with deep sutures and ligatured the cord itself at the apex of the congenital hernial sac.

Recovery was complete without a single bad symptom. He recommends his operation in all similar cases, evidently considering it the only treatment indicated. So we were supported by the best of authority, in operating instead of trying to apply a compress. Should I ever meet with a similar case, I would perform an operation different from either Bryant's or mine.

I would first remove the amniotic layer of the sac, if it could be separated from the peritoneum, excising or amputating it at its junction with the skin, return the viscera and peritoneal sac to the abdominal cavity and close the abdominal opening as in a case of exploratory incision, or simple laparotomy. Either incising the peritoneal sac to better protect the bowels from needle points, or stitch to the bottom of the wound by deep sutures, and support the sutures by adhesive strips around the abdomen. I would recommend this operation after observing how quickly the amnion sloughed away. It might just as well be removed at once if it can be easily separated from the peritoneum.

(*To be concluded.*)

FOREIGN CORRESPONDENCE

LETTER FROM PARIS.

[We are permitted to publish, for the information of those intending to visit Europe, the following translation of a letter addressed by Dr. Cornil, of Paris, France, to Dr. E. W. Cushing, Hotel Pelham, Boston, Mass.—Editor.]

Dear Doctor:—Last year, in the month of July, you did me the honor of visiting me in my laboratory, Rue Lohmond. We discussed very earnestly the organization of private courses, rapidly made practicable and demonstrative, in which physicians, and especially American physicians, could learn in some months the technique of scientific specialties, such as normal histology, pathological histology, bacteriology, accouchements, ophthalmology, skin and syphilitic diseases, diagnosis, nervous diseases, autopsies. Now, I can tell you that we will organize these courses in union with some of my colleagues in the Faculty of Medicine, and that we will accomplish them with the Assistants and Fellows of the Faculty. For my own part I shall be happy to have them succeed, and that your compatriots may find in Paris, where we have so many resources, all the facilities of instruction that they receive at Vienna.

I am persuaded also that the American physicians and students will receive here a better welcome,

founded on all the sympathies which bind us to the American Nation, and on the desire to sustain the most friendly relations with your medical fraternity. My medical laboratory will contain, besides the necessary rooms for the practical work of the scholars, a hall for private courses in bacteriology, which will be presided over by M. Chautemesse. The courses in bacteriology will last six weeks, and sixteen scholars may pursue the course at a time, having at their disposition all the room and material necessary. This course will be very well organized. I have, besides, a hall for a practical course in pathological histology, which will receive about fifteen scholars, each one having his table at a window. This course will be given by M. Dr. Brault, and will also last six weeks. You probably know Dr. Brault, who has written, with me, a volume on the pathology of the kidneys. M. Brault is an excellent pathologist. M. Chautemesse is well informed on bacteriological technique, and has recently passed a month and a half at the Gesundheitsamt, in Berlin. In accouchements we have the course of M. Bar and M. Auvard, which is well given. M. Bar will give, besides, a more practical instruction in his hospital service, where he will admit some physicians and repeat operations. For nervous diseases M. Babruski, chief of the clinic of M. Charcot, will give some repetitions in the Hôpital de la Salpetrière. For ophthalmology, one has yet only the puzzle of choosing. It is the same case with skin diseases and medical diagnosis. For this it will be very easy to have the lessons by series, with M. Capitan, chief of the clinique at Hôtel Dieu, or with another chief of medical clinic. For normal histology, there are just now demonstrative courses already prepared by M. Lattery. It will be possible to organize an analogous course if this does not suffice, either in the College de France or in my laboratory. As concerns autopsies, I make public autopsies at Hôtel Dieu, and I will let autopsies be made under my direction by persons who are registered. I will do this for all scholars, as the course is public.

You see that we are ready, and I assure you that your compatriots will find here all the means of instruction To obtain information, they may address to my laboratory, which will be Rue de l'Ecole de Médecine, en Façe de la Faculté (fronting the University) or to M. Chautemesse, or to another of my assistants. Yours truly, DR. CORNIL,

19 Rue St. Gaillaume.

Paris, March 6, 1886.

DOMESTIC CORRESPONDENCE

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Fifth District Branch Meeting — Intussusception—Large Calculi; Operations for Stone—Epicystotomy for Sarcoma and Papilloma.

After Dr. Van Hoevenberg's paper, spoken of in my last letter, at the evening meeting of the Fifth District Branch of the New York State Medical Society at the Hotel Kaaterskill, the President, Dr. J. G. Porteous, of Poughkeepsie, read the history of an interesting case of intussusception in which about seven inches of the intestines were discharged *per rectum*, and recovery followed without an operation.

Dr. C. R. Wood, of New York, said that it was the fashion now to operate in these cases, and the medical attendant who did not operate or send for a surgeon for that purpose was apt to be looked upon as actually criminal. At the Poughkeepsie meeting of the Fifth Branch he had read a case similar to that of Dr. Porteous, in which recovery also took place, although there was no operation; and such cases ought all to be published. Many lives, he thought, might be saved if this course was more frequently adopted. Laparotomy was very apt to prove fatal, and yet it was frequently resorted to even before other measures had been tried.

Dr. J. W. S. Gouley, of New York, said that he was fully in accord with Dr. Wood, if he rightly understood his views. "Belly cutting" had become such a mania among doctors that one was tempted to suggest that some of its advocates ought properly to be shut up in a lunatic asylum. More lives were lost than saved by laparotomy. While it was a perfectly legitimate operation, and of great service in its proper place, its scope and limitations were not as clearly understood as they ought to be. These limitations were, however, sufficiently well defined; and it was an undoubted fact that many cases recover spontaneously. Some years since he had collected quite a large number of these, and he remembered that in one instance six feet of intestine, and in another a still larger piece, were discharged.

So long as the intestinal canal remained pervious, operative interference was entirely uncalled for; but the moment that complete obstruction and commencing fæcal intoxication occurred, laparotomy should be performed. He believed that the operation was often performed after symptoms of peritonitis had set in, and that under these circumstances it was worse than useless. If the operation had any value at all in cases of this kind, it was when the symptoms of complete intestinal obstruction first showed themselves. Then, and then only should it be resorted to. Afterwards it would be too late.

Dr. John Shrady, of New York, related the case of a lady who was kicked in the abdomen and died three weeks afterward. The autopsy showed the presence of peritonitis, with six inches of invaginated intestine. He mentioned the case, he said, to show the length of time that the condition might last.

Dr. Gouley exhibited a series of specimens of large calculi which had been removed by himself, and which he said he wished to serve as a text for some remarks upon what he conceived to be a safe method of ridding the bladder of these dangerous foreign bodies. There were fourteen or fifteen of these specimens, most of which had been removed by lithoclastic cystotomy; and Dr. Gouley gave a short history of each case; after which he went on to say that surgeons, like women, have their fashions. Too often the sentiment entertained was, "Perish the patient, but let me operate." The operation of lithotripsy and evacuation at a single sitting, the old pro-

cedure revived by Bigelow, at first sight seemed a very simple and easy affair; but the aspiration of calculous detritus as well as the preliminary operation of crushing, was in reality attended by great danger. He had seen two or three hours occupied in these procedures, and the result was very severe cystitis. This would be the consequence whenever any sitting at lithotripsy was prolonged. The operation, therefore, should be short. Yet one case of Bigelow's had lasted four hours, and during all this time the administration of ether was kept up. Even though the kidneys were diseased, the ether had to be gotten rid of through these organs, as well as by way of the lungs and skin; and acute nephritis from this cause had occasioned many deaths. But if nephritis was not caused, there was very liable to result permanent cystitis, which would inevitably shorten the patient's life. In many cases, therefore, cystotomy was far preferable to lithotripsy with aspiration. Two grand objects were accomplished by this procedure, as the patient was relieved, *first*, of prostatic obstruction; and, *second*, of the stone.

Still more recently an operation devised by Franko in the middle of the sixteenth century has been revived, viz.: supra-pubic lithotomy. Within the last eighteen months the operation had undergone what was considered a very important modification, consisting of the elevation of the bladder by means of a rubber bag introduced into the rectum and distended with water. This, however, was a delusive thing. The trouble was not want of space, as any good surgeon could remove the stone without difficulty. The real dangers were three: In the first place, there was a liability of rupture of the delicate peritoneum during a violent fit of coughing or vomiting. The first case in which the operation was done by a certain advocate of this method in New York was that of a child, and it was successful; but it was not to be forgotten that in children the bladder is in reality an abdominal organ. The second case was in an adult, and before the surgeon had left the hospital, after removing the stone, it was reported to him that the intestines were protruding through the wound. The operator believed that he had cut the perineum; but Dr. Gouley was of the opinion that the rupture had probably been spontaneous. The peritoneum was stitched to the abdominal walls, and the patient recovered; but if the accident had occurred at night, the intestine wauld no doubt have become strangulated, and death from peritonitis have resulted.

The second great danger was from extravasation of urine. Dr. Gouley predicted that for ten years the supra-pubic operation would be performed, and that when a sufficient number of deaths had resulted from it, it would be condemned and abandoned. Surgeons would, therefore, have to come back to lithoclasty, on account of its greater safety. The mortality in general in lithoclastic cystotomy was one death in eight cases, and in Dr. Gouley's hands the proportion was still smaller, one in eleven.

He then referred to epicystotomy for sarcoma or papilloma of the bladder. He had had several cases of the latter, and had operated in two of them; but both the patients died. If he were now called upon to perform this operation in an otherwise healthy subject, he said he should be inclined to combine the two procedures; the infra-pubic operation for securing drainage, and the supra-pubic for the purpose of seizing and removing the tumor. This is the only condition in which he would admit the propriety of the supra-pubic operation.

Dr. Shrady said that he should like to ask Dr. Gouley whether he thought the use of certain kinds of drinking-water had anything to do with the causation of urinary calculi. It had been stated that stone had been much less frequent than formerly in New York since the introduction of the Croton water system. Again, it was found that in certain parts of the country it was much more common than in others. The late Dr. Dudley, of Kentucky, had performed an immense number of operations for stone.

Dr. Gouley said that his answer would be an affirmative one, although with a reservation. Potable waters containing such ingredients as limestone did not give rise of themselves to stone in the bladder. Thh impression formerly prevailed that certain potable waters would cause stone because the salts they contained would be deposited; but this was not the case. That brimstone waters were a prolific source of stone there could be no question; but it was in an indirect manner that they produced this effect. They gave rise to dyspepsia and thus caused lithuria and nephritic colic, and finally calculi were passed from the kidneys which were not evacuated from the bladder. These caused irritation of the vesical mucous membrane, and concentric layers of phosphates or urates were formed. The effect of these waters was, therefore, an indirect one; and they not infrequently gave rise to engorged liver, gastric catarrh, and rheumatic and gouty pains.

After some further discussion of the galvano-cautery apparatus presented by Dr. Newman in the afternoon, the meeting adjourned.

When we came out in front of the hotel the full moon was riding high in a clear sky, while below, all over the vast valley of the Hudson, the gray clouds lay banked like the motionless waves of some enchanted ocean. The air was mild and balmy, so that one could sit out of doors with comfort, and the quiet smoke enjoyed while gazing upon a scene so exquisite and impressive is not likely to be soon forgotten by those who were fortunate enough to have that felicity. Some of the party who were especially energetic, and wished to make the most of the limited time at their disposal, actually arose in season to see the sunrise and take a long tramp before breakfast; but the larger number were content to wait to sally forth till after this meal, when stages were in waiting to convey them to Sunset Rock, Inspiration Point, the Kaaterskill Falls and the Mountain House. The Hotel Kaaterskill stands in the midst of the picturesque Kaaterskill Park, through which many miles of charming drives have been constructed, and within a comparatively short distance of the great hotel is to be found a large part of the most beautiful and romantic scenery in the whole Catskill region. An immense outlay, not only upon the house itself, which is the largest mountain hotel in the world, but also

upon its environment, has been made by the proprietor, Mr. George Harding, the famous patent lawyer of Philadelphia, and many superb points which were formerly accessible only to pedestrians can now be reached by carriage roads. There is perhaps nothing finer in the mountains than the grand view of the magnificent Kaaterskill Clove from Sunset Rock and Inspiration Point. From these ravishing outlooks one gets the sweep of the entire Clove; the one commanding the upper portion, with the head at Haines' Falls, and the other the outlet, with the picturesque hamlet of Patenville nestling in the midst of the large gap, and the broad and shining Valley of the Harlem, with its storied river, beyond. You stand upon the brink of a mighty precipice, with the wild Kaaterskill roaring over the rocks nearly two thousand feet below, and directly opposite the majestic dome of High Peak towering to a sublime reach; and here can be met with at times the perfect realization of Ruskin's graphic lines:

"Blue and baseless and beautiful,
Did the boundless mountains bear
Their folded shadows into the golden air.
The comfortlessness of their chasms was full
Of orient cloud and undulating mist,
Which, where their silver cataracts kissed,
Quivered with panting color."

At intervals along the face of High Peak, and emptying into the Clove, are several great gorges, and it is said that the central one of these, known as Buttermilk Gorge, has been pronounced by the artist Mr. Church the most beautiful thing in all the Catskills. Certainly nothing can be more inspiring, to a good mountaineer, than a climb up this wild ravine after a storm, when the water-courses are full. At the foot of the gorge there stood, until a few years ago, one or two buildings which once belonged to a deserted village that has had no Goldsmith to record in imperishable verse its humble story. The village went to decay because the supply of hemlocks on the neighboring mountains gave out, and the remains of the foundations of the old tannery, which was the *raison d'être* of the village, can still be found upon the banks of the stream.

In making the ascent of the gorge one meets with an almost continuous succession of cataracts of the most varied and exquisite beauty for over a thousand feet,

Where through abysses vast of endless green,
In fall on fall, from the stupendous height,
Mid clouds of sparkling spray, with sunlight sheen,
The foaming flood comes leaping down the wild ravine.

In one of the most picturesque of the many falls the feathery water spreads itself completely over a vast wall of rock some sixty feet high and eighty or a hundred feet in width, which is one living mass of the richest ferns and moss, and, dividing into a myriad shining streams, flows down like a shower of diamonds over its glowing emerald bed.

By the time that our excursionists returned to the hotel after their morning's expedition, which for many of them included the descent to the bottom of the enormous amphitheatre into which leap the famous Kaaterskill Falls, they were fully ready to enjoy the bountiful dinner that they found awaiting them. It is only just to say that both Mr. Paige, the manager, who opened the hotel expressly for the accommodation of the party, and Mr. Harding, who was himself present to do the honors of the house, were throughout indefatigable in their efforts to make their sojourn as pleasant as possible in every way; and the Association was glad to express its appreciation of their courtesy by a cordial vote of thanks to these gentlemen. In the afternoon the company set out upon their homeward journey, and it was with no small feeling of regret that we left the enchanted domain of the misty mountain tops to descend once more into the matter-of-fact world of everyday life.

P. B. P.

THE ASSOCIATION OF AMERICAN PHYSICIANS (Limited).

TO THE EDITOR OF THE JOURNAL:

Dear Sir:—"Practitioner's" communication in your issue of July 3d has very pertinently directed attention to the characteristic features of the new organization styled "*The* Association of American Physicians." He justly states that a body which assumes to be composed of *the* physicians *par excellence* of America, ought to be conscious that its very assumptions make its members shining marks of criticism, and it should, therefore, be very careful that all its members are really physicians of eminent ability, skill and acquirements; and furthermore, that no men, who are physicians of acknowledged and unquestionable reputation and eminence, are excluded from the galaxy, especially to give place to lesser lights.

A superficial examination of the list of Their Eminencies united to become members of this very exclusive association, shows that while a specious attempt has been made to get specimens from the various sections of the country and the national sources, New York, Philadelphia and Boston have supplied *forty-two* of the *fifty-six* who responded to the call, while the high professional standing of the medical corps of the Army seems to have counted for nothing in the make-up of the Association by its self-appointed sponsors, although the Philadelphia progenitors must have known of the existence of such a man as Ruschenberger, who has been thought fit to preside over the College of Physicians, of Philadelphia; and the Washington begetter must have heard of the present head of the corps, Surgeon-General Francis M. Gunnell, who, during almost forty years' service, of which over twenty have been on shore, has had as wide a professional experience as half the men in the newly-fledged Association, and certainly very much more than one of them, who is represented to have declared that he is "no doctor," and has not written a prescription for twenty years. By the same token, the many years active professional work of Colonel Basil Norris, of the Army, as attending medical officer at Washington, would seem to have as eminently qualified him to represent the military service in an Association of *physicians* as the "no doctor."

One fact can not fail to impress a casual reader of the names of the seventy-four select elect, namely: that they include among them the leading "soreheads" who have foresworn their allegiance to the American Medical Association, on account of its action in revising and setting aside the arbitrary doings of its own committee—the original seven—appointed by it to arrange the preliminaries of the International Medical Congress. We might have expected the seven—or at least *five* of them—to be there, for have we not the written declaration of one of themselves that they are "the *most* eminent contributors to the advancement of medical science" in this country? [Ed. *Philadelphia Medical Times*, January 30, 1886, p. 128] and we can not help inferring a coincidence between their resentful antagonism to the American Medical Association and their part in getting up THE Association of American Physicians. Indeed, it is no secret that this Association has only been organized to complete the set of special societies out of which it is intended to create an exclusive general body aloof from the American Medical Association. Whether only the professional *crême de la crême*, has been skimmed off will be open to question so long as the constituent bodies comprise surgeons who can not operate, obstetricians who have no acquaintance with parturient women, and new physicians who are "no doctors." If the death of the American Medical Association is to be accomplished, let the drugging not be attempted by such a homœopathic dose. A. M. A.

Philadelphia, Pa., July 8, 1886.

NECROLOGY.

SYLVANUS NEWELL BIXBY, M.D.

SYLVANUS NEWELL BIXBY, M.D., the eldest son of Rev. N. W. and Ruby Bixby, died at Strawberry Point, Iowa, May 10, 1886, aged nearly 42 years. He was born in Starksboro, Vt., May 16, 1844, and came to Iowa when but 3 years old. Received his education at Wasioja, Minn., and Hillsdale College, Mich. For a time he devoted his attention to teaching, and was quite successful in this capacity, and was for several years principal of the Elkader High School. He received his medical education at Rush Medical College, Chicago, and at Keokuk, Iowa. He married Miss Emily Denton, of Fitchville, Ohio, who survives him. He was a member of the County Medical Societies of Clayton and Delaware, Iowa; of the Iowa State Medical Society, and of the American Medical Association. He was a physician who was beloved and respected by all who knew him. Of genial character, sympathetic, and ready to aid whenever called upon to do so, he attracted many friends, and will in consequence be greatly missed in the community in which he labored. He was regular in his attendance upon local society meetings, and ever ready with something of interest.

The Delaware County Medical Society attended his funeral in a body, and gave expression to their esteem for the deceased in the following resolutions:

"*Resolved*, That in the death of S. N. Bixby, M.D., a member of Delaware, Clayton, and Iowa State Medical Societies, and of the American Medical Association, our Society and profession have lost a physician of skill and fidelity, an estimable Christian gentleman, and a faithful member, whose industry and high sense of honor have endeared him to his professional brethren as well as to the community, and whose example in both professional and daily life we earnestly commend to all.

"*Resolved*, That our heartfelt sympathy be tendered to the family and friends of our deceased brother.

"*Resolved*, That a copy of these resolutions be furnished to the family of the deceased, and to the local press, and that these resolutions be also spread upon the journal of the Society."

WILLIAM EDWIN JOHNSTON, M.D.

DR. WILLIAM EDWIN JOHNSTON was born near Wooster, Wayne county, Ohio, February 16, 1822. Died at Paris, France, February 14, 1886. He was the oldest son of R. C. Johnston, deceased, and was at the time of his death the oldest American physician in Paris, having practiced there for more than thirty years. He took his degree of Doctor of Medicine, at the University of New York, in 1847, after which, for five years, he practiced with his father, at Sidney, Ohio.

In 1852 he visited Paris, and established himself in the Latin Quarter to be near the schools, when he followed the most eminent physicians of the day. At the same time for pleasure and profit, he acted as foreign correspondent for a number of newspapers, and his success as a writer, made him long hesitate in reëstablishing himself in active practice as a physician. The first paper which published his letters, was the *Ohio State Journal*, of August 9, 1852. Four months later he wrote a brilliant and exhaustive description of the *coup d' etat*, which placed Louis Napoleon on the throne of France, and his subsequent correspondence with the *Ohio State Journal*, the *Cincinnati Gazette*, the *Commercial Advertiser*, and the *New York Times*, would be found to be a complete history of the third Empire from its beginning until 1868, two years before its fall.

In 1855 he became Paris correspondent for the *New York Times*, under the pseudonym of "Malakoff." His letters from Italy, over this signature rendered him famous as a war correspondent, being as distinguished for their literary merit as for their fidelity to facts; and were a noted feature of that paper, until his regular contributions ceased. Having married Miss Bertha Matteson, of Chicago, in 1866, he found it necessary to devote all his energies to the large and lucrative practice which had grown up gradually around him, in a choice circle of compatriots, and foreigners of all nations. His untiring devotion to his patients has endeared him both as a man, and as physician, to hundreds of families in all parts of the world.

During the last siege of Paris he remained in the beleaguered city, and his services in connection with

the American ambulance were acknowledged by the French Government by the decoration of Chevalier of the Legion of Honor, from which grade he was promoted officer in 1873. He also received from his Majesty the Emperor of Germany, the grade of officer in the order of the Crown of Prussia, in acknowledgement of services rendered German subjects during the siege, and throughout the two months of the Commune which followed. Dr. Johnston's literary education was obtained, not in the schools, but at the printing press, at which occupation he was engaged from the age of 10 years until his graduation in medicine. He was in the true sense of the word, a self-made man, one truly great, whom wealth and prosperity did not and could not spoil. His life was marked by constant acts of kindness and sympathy, and no unfortunate American visiting Europe, applied to him for relief, in vain.

Dr. Johnston in his political sympathies and feelings was intensely American, and he did much to mould French public opinion in favor of the Union during our civil war. His latest published work was his monograph on the Panama Canal Scheme, which so thoroughly showed the imposition practiced on the shareholders, and the impracticability of the undertaking, that the French Government ordered an investigation.

The official notification of the death of Dr. Johnston by the United States Legation at Paris to Hon. Thomas F. Bayard, Secretary of State, contains the following tribute: "In the death of Dr. Johnston the legation loses a valuable friend, one who could always be applied to for any information pertaining to his profession. During the several epidemics of cholera he furnished valuable and reliable information for the use of our Government, as the Records of the Department will show. He also interested himself in the organization of the International Bureau of Literary and Scientific Exchanges and made a report to the Department on the subject containing many valuable suggestions which were practically adopted."

The legation attended his funeral, and sent, on the occasion, to his bereaved widow, a wreath as a tribute to his cherished memory.

AMERICAN MEDICAL ASSOCIATION.

FORMED IN 1846.

Next annual meeting will be held June 7th, 8th, 9th, and 10th, 1887, in Chicago, Ill. President, E. H. Gregory, M.D., St. Louis, Mo. Permanent Secretary, W. B. Atkinson, M.D., Philadelphia, Penn. Assistant Secretary, J. Nevins Hyde, M.D., Chicago, Ill. Treasurer, Richard J. Dunglison, M.D., Philadelphia, Penn. Librarian, C. H. A. Kleinschmidt, M.D., Washington, D. C. Chairman of Committee of Arrangements, Charles Gilman Smith, M.D., Chicago, Ill.

All membership dues should be sent direct to the Treasurer, RICHARD J. DUNGLISON, M.D., lock box 1274, Philadelphia, Penn.

MISCELLANEOUS.

INOCULATION FOR YELLOW FEVER.—The modern expedient for settling knotty points in science is to appoint a Commission; success, it is true, has not uniformly attended this method, and the reports, if not polemical, are generally colorless. Yellow fever is the disease which is now to be investigated in this way. A few years ago, Dr. Domingos Freire announced that he had prepared a vaccine which preserved the vaccinated from yellow fever; his method of experimenting, however, did not commend itself to the bacteriologists; and M. Rebourgeon, who had been trained in M. Pasteur's laboratory, was sent out to Rio de Janeiro to guide Dr. Freire into the right way. The papers since published by these two experimenters confirmed the earlier claims, and M. Rebourgeon has returned to Paris to convince the sceptics; he informed the Société de Biologie at its meeting on May 22, that, during the recent epidemic, 6,000 persons had been inoculated, of whom not one suffered from the disease; and that, in seven cases where patients were inoculated while suffering from the disease, recovery took place in every instance. The Society appointed a Commission of five, including MM. Brown-Sequard and Cornil, to study the method. In the United States, moreover, the demand for a Commission has been backed by the American Medical Association.—*British Medical Journal*, June 5, 1886.

HONORS TO PASTEUR.—The French Humane Society has recently presented a medal to M. Pasteur, in recognition of his services to humanity.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE will hold its fifty-sixth annual meeting in Birmingham on September 1st to 9th, inclusive.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 2, 1886, TO JULY 10, 1886.

Lt.-Col. Chas. Page, Surgeon, leave of absence further extended one month. (S. O. 156, A. G. O., July 8, 1886.)

Major Joseph R. Gibson, Surgeon, granted leave of absence for three months, to take effect about August 1. (S. O. 158, A. G. O., July 10, 1886.)

Major Wm. E. Waters, Surgeon, ordered for duty as Post Surgeon, Ft. Spokam, W. T. (S. O. 112, Dept. Col., July 2, 1886.)

Capt. Edwin F. Gardner, Asst. Surgeon, granted leave of absence for two months. (S. O. 158, A. G. O., July 10, 1886.)

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JULY 16, 1886.

Wentworth, A. R., Asst. Surgeon, detached from the U. S. S. "Brooklyn" and wait orders.

Norton, Oliver D., Asst. Surgeon, detached from the U. S. S. "Minnesota" and to the U. S. S. "Brooklyn."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDED JULY 17, 1886.

White, J. H., Asst. Surgeon, granted leave of absence for thirty days. July 12, 1886.

Pettus, W. J., Asst. Surgeon, when relieved at Charleston, S. C., to proceed to Savannah, Ga., for temporary duty.